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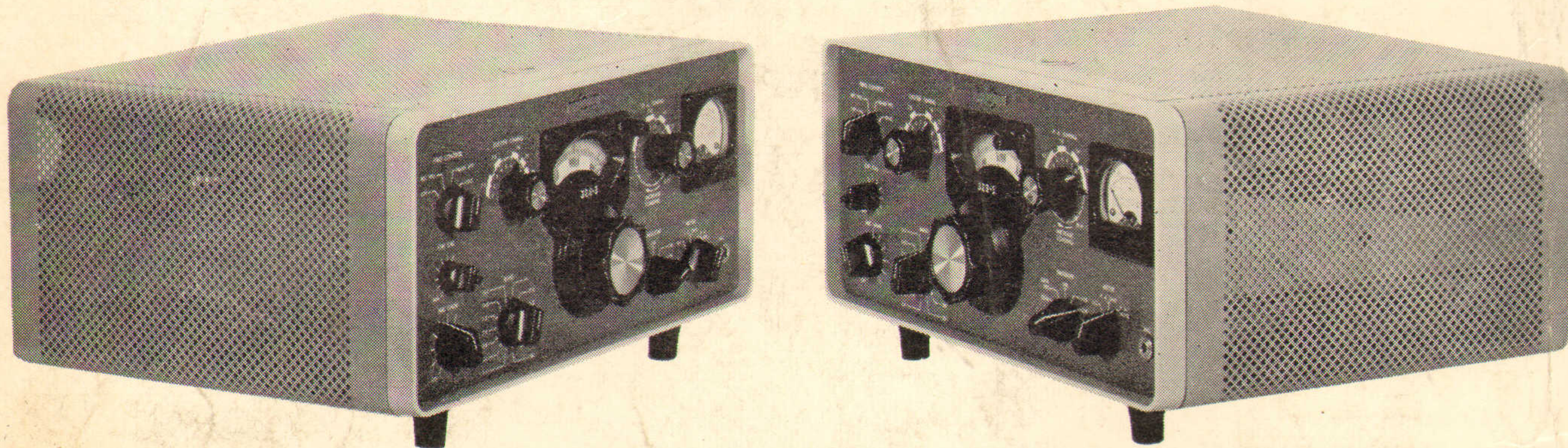
RADIO AMATEURS OF THE U.S.A. (ALL K AND W CALLS)
IN THIS ISSUE

16,492 NEW LICENSES ISSUED BY FCC SINCE THE SUMMER 1962 CALLBOOK
OVER 24,000 CHANGES IN PREVIOUS LISTINGS
OVER 249,000 LICENSED RADIO AMATEURS

FALL 1962

CURRENT UNTIL THE NEXT
ISSUE, DECEMBER 1962

JOHN J. VALESKA
276 NORMANDALE DRIVE
ROCHESTER, N. Y.



Switch Hitter

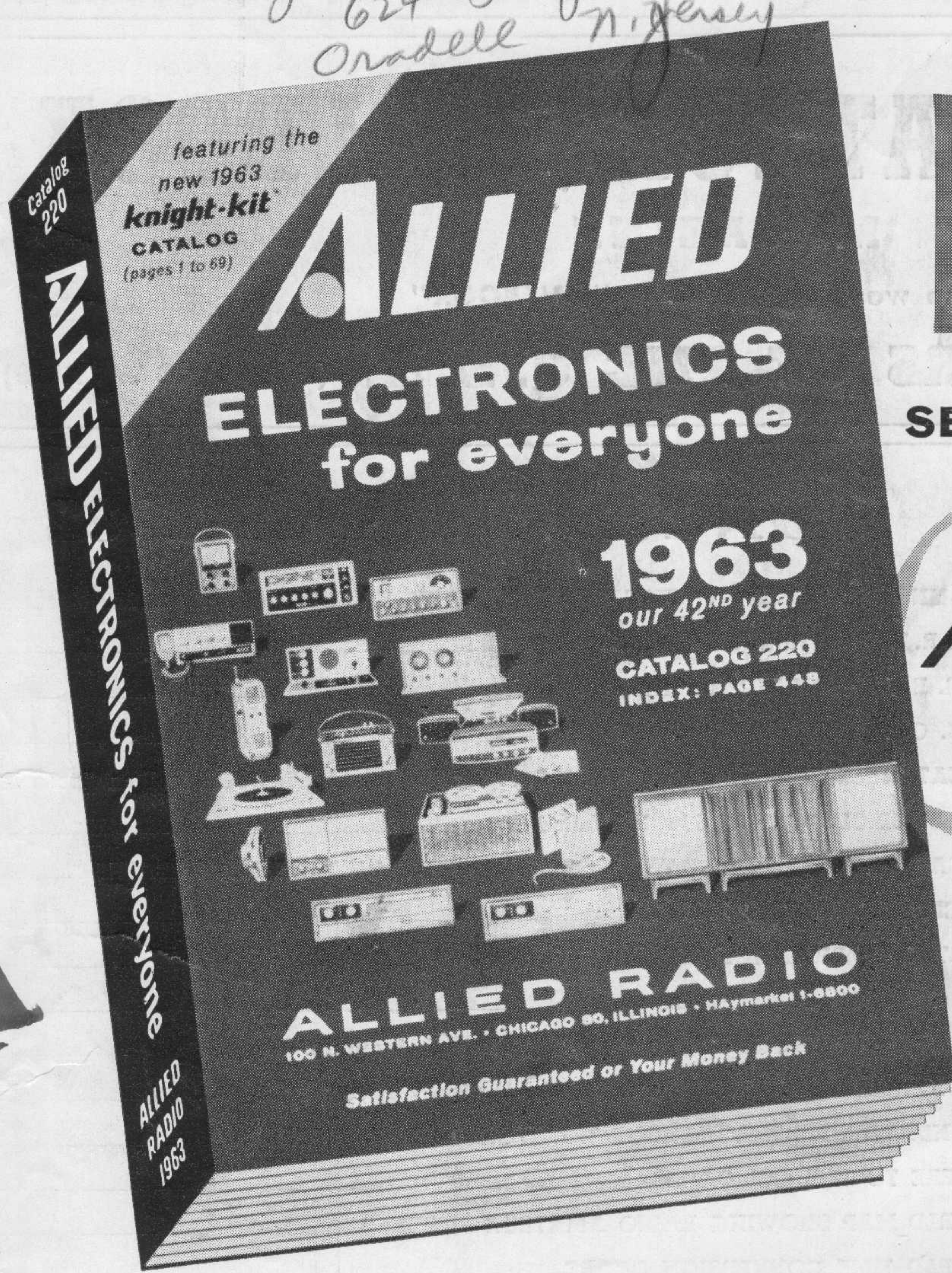
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RADIO AMATEUR CALLBOOK

MAGAZINE

known the world over as the "CALLBOOK"

RADIO AMATEURS OF THE U. S. A. (ALL K AND W CALLS)

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VOLUME 40 NUMBER 3
FALL 1962

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RADIO AMATEUR CALL BOOK
(Incorporated)

4844 Fullerton Avenue
Chicago 39, Illinois, U.S.A.
Phone NAtional 2-6616

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RADIO AMATEUR CALLBOOK MAGAZINE is published quarterly on the first of March, June, September and December. Single copy, \$5.00 plus 25c for mailing. Subscription, any 4 issues, postpaid, in U.S.A. and Possessions and Canada \$18.00, elsewhere \$19.00. Second class postage paid at Chicago, Illinois.

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Includes the States of Arkansas, Louisiana, Mississippi, New Mexico, Oklahoma and Texas.	
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Includes the State of California.	
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Includes the States of Arizona, Idaho, Montana, Nevada, Oregon, Utah, Washington and Wyoming.	
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Includes the States of Michigan, Ohio, and West Virginia.	
NINTH CALL AREA	443
Includes the States of Illinois, Indiana and Wisconsin.	
TENTH CALL AREA	495
Includes the States of Colorado, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota and South Dakota.	
OTHER K CALLS INCLUDING HAWAII AND ALASKA	545

HALLICRAFTERS MANAGEMENT:

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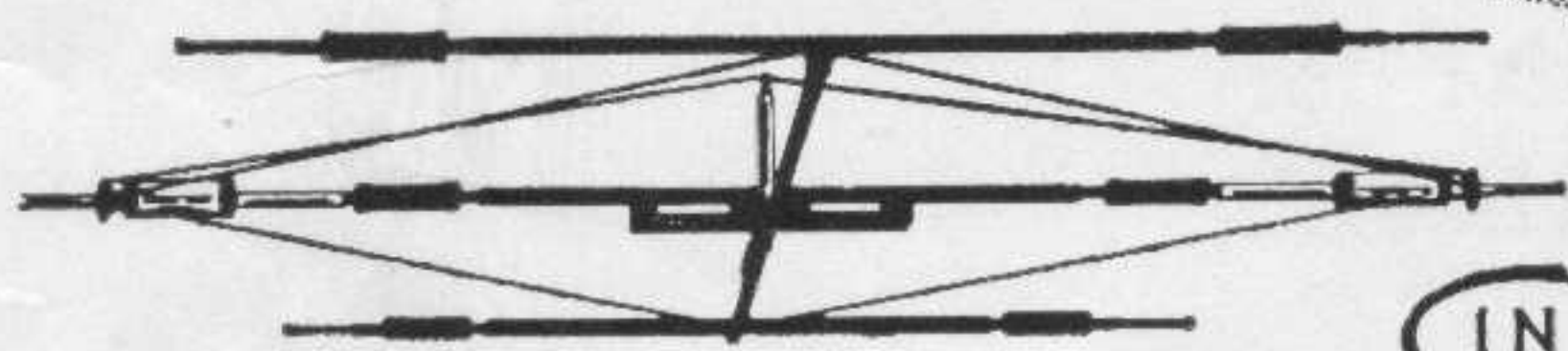
The ARRL Postwar Countries List is the official standard used in connection with the DX Century Club. To qualify for the DX Century Club Award, an applicant must submit confirmations from at least 100 different countries contacted after November 15, 1945, in accordance with the Postwar DXCC Rules. Copies of the DXCC Rules will be furnished by ARRL on request.

AC3 Sikkim
AC4 Tibet
AC5 Bhutan
AP East Pakistan
AP West Pakistan
BV Formosa
BY China
C9 Manchuria
CE Chile
CE9AA-AM, KC4, LU-Z, VKφ, VP8, ZL5 Antarctica
CE9 (See VP8)
CEφA Easter Island
CEφZ Juan Fernandez Archipelago
CM, CO Cuba
CN2 Tangiers
CN2, CN8, CN9 Morocco
CP Bolivia
CR4 Cape Verde Islands
CR5 Portuguese Guinea
CR5 Principe, Sao Thome
CR6 Angola
CR7 Mozambique
CR8 Damao, Diu
CR8 Goa
CR9 Macao
CRφ Portuguese Timor
CT1 Portugal
CT2 Azores
CT3 Madeira Islands
CX Uruguay
DJ, DL, DM Germany
DU Philippine Islands
EA Spain
EA6 Balearic Islands
EA8 Canary Islands
EA9 Ifni
EA9 Rio de Oro
EA9 Spanish Morocco
EAφ Spanish Guinea
EI Republic of Ireland
EL Liberia
EP, EQ Iran
ET2 Eritrea
ET3 Ethiopia
F France
FA Algeria
FB8 Amsterdam & St. Paul Islands
FB8 Comoro Islands
FB8 Kerguelen Islands
FB8 Tromelin Island
FC (Unofficial) Corsica
FF8 French West Africa
FG7 Guadeloupe
FI8 French Indo-China
FK8 New Caledonia
FL8 French Somaliland
FM7 Martinique
FN8 French India
FO8 Clipperton Island
FO8 French Oceania
FP8 St. Pierre & Miquelon Islands
FQ8 French Equatorial Africa
FR7 Reunion Island
FS7 Saint Martin
FU8, YJ1 New Hebrides
FW8 Wallis & Futuna Islands
FY7 French Guiana & Inini
G England
GC Channel Islands
GD Isle of Man
GI Northern Ireland
GM Scotland
GW Wales
HA Hungary
HB Switzerland
HC Ecuador
HC8 Galapagos Islands
HE Liechtenstein
HH Haiti
HI Dominican Republic
HK Colombia
HKφ Bajo Nuevo
HKφ Malpelo Island
HKφ San Andres and Providencia
HL9, HM Korea
HP Panama
HR Honduras
HS Thailand
HV Vatican City
HZ Saudi Arabia
II, IT1 Italy
II Trieste
IS Italian Somaliland
IS1 Sardinia
JA, KA Japan
JT1 Mongolia
JY Jordan
JZφ Netherlands New Guinea
K, W United States of America
KAφ, KG61 Bonin & Volcano Islands
KB6 Baker, Howland & American Phoenix Islands
KC4 (See CE9)
KC4 Navassa Island
KC6 Eastern Caroline Islands
KC6 Western Caroline Islands
KG1 (See OX)
KG4 Guantanamo Bay
KG6 Marcus Island
KG6 Mariana Islands
KG61 (See KAφ)
KH6 Hawaiian Islands
KH6 Kure Island

KJ6 Johnston Island
KL7 Alaska
KM6 Midway Islands
KP4 Puerto Rico
KP6 Palmyra Group, Jarvis Island
KR6 Ryukyu Islands
KS4 Serrana Bank & Roncador Cay
KS4 Swan Islands
KS6 American Samoa
KV4 Virgin Islands
KW6 Wake Island
KX6 Marshall Islands
KZ5 Canal Zone
LA Jan Mayen
LA Norway
LA Svalbard
LU Argentina
LU-Z (See CE9)
LX Luxembourg
LZ Bulgaria
M1 San Marino
MP4 Bahrain
MP4 Qatar
MP4 Trucial Oman
OA Peru
OD5 Lebanon
OE Austria
OH Finland
OHφ Aland Islands
OK Czechoslovakia
ON4 Belgium
OX, KG1 Greenland
OY Faeroes
OZ Denmark
PAφ, PII Netherlands
PJ Netherlands West Indies
PJ2M Sint Maarten
PK1,2,3 Java
PK4 Sumatra
PK5 Netherlands Borneo
PK6 Celebes & Molucca Is.
PX Andorra
PY Brazil
PYφ Fernando de Noronha
PYφ Trindade & Martim Vaz Islands
PZ1 Netherlands Guiana
SL, SM Sweden
SP Poland
ST2 Sudan
SU Egypt
SV Crete
SV Dodecanese
SV Greece
TA Turkey
TF Iceland
TG Guatemala
TI Costa Rica
TI9 Cocos Island
TJ Camerouns
TL Central African Rep.
TN Congo Rep.
TR Gabon Rep.
TT Chad Rep.
TU Ivory Coast
TY Dahomey Rep.
TZ Mali Rep.
UA1-6, UN1 European Russian
UA1 Socialist Federated Soviet Republic
UA2 Franz Josef Land
UA2 Kaliningradsk
UA9, φ Asiatic Russian S.F.S.R.
UB5 Ukraine
UC2 White Russian Soviet Socialist Republic
UD6 Azerbaijan
UE6 Georgia
UG6 Armenia
UH8 Turkoman
UI8 Uzbek
UJ8 Tadzhik
UL7 Kazakh
UM8 Kirghiz
UN1 Karelo-Finnish Rep.
UO5 Moldavia
UP2 Lithuania
UO2 Latvia
UR2 Estonia
VE, VO Canada
VK Australia (including Tasmania)
VK Lord Howe Island
VK Willis Islands
VK9 Christmas Island
VK9 Cocos Islands
VK9 Nauru Island
VK9 Norfolk Island
VK9 Papua Territory
VK9 Territory of New Guinea
VKφ (See CE9)
VKφ Heard Island
VKφ Macquarie Island
VP1 British Honduras
VP2 Antigua, Barbuda
VP2 British Virgin Islands
VP2 Dominica
VP2 Grenada & Dependencies
VP2 Montserrat
VP2 St. Kitts, Nevis
VP2 St. Lucia
VP2 St. Vincent & Dependencies
VP3 British Guiana
VP4 Trinidad & Tobago
VP5 Cayman Islands

VP5 Jamaica
VP5 Turks & Caicos Islands
VP6 Barbados
VP7 Bahama Islands
VP8 (See CE9)
VP8 Falkland Islands
VP8, LU-Z South Georgia Islands
VP8, LU-Z South Orkney Islands
VP8, LU-Z South Sandwich Islands
VP8, LU-Z, CE9AN-AZ South Shetland Islands
VP9 Bermuda Islands
VQ1 Zanzibar
VQ2 Northern Rhodesia
VQ3 Tanganyika Territory
VQ4 Kenya
VQ5 Uganda
VQ6 British Somaliland
VQ8 Cargadas Carajos
VQ8 Chagos Islands
VQ8 Mauritius
VQ8 Rodriguez Island
VQ9 Seychelles
VR1 British Phoenix Islands
VR1 Gilbert & Ellice Islands & Ocean Island
VR2 Fiji Islands
VR3 Fanning & Christmas Islands
VR4 Solomon Islands
VR5 Tonga Islands
VR6 Pitcairn Island
VS1 Singapore
VS4 Sarawak
VS5 Brunei
VS6 Hong Kong
VS9 Aden & Socotra
VS9 Karaman Is.
VS9 Maldives Islands
VS9 Sultanate of Oman
VU Andaman and Nicobar Islands
VU India
VU Laccadive Islands
XE, XF Mexico
XE4 Revilla Gigedo
XT Voltaic Rep.
XW8 Laos
XZ2 Burma
YA Afghanistan
YI Iraq
YI (See FU8)
YK Syria
YN, YNφ Nicaragua
YO Roumania
YS Salvador
YU Yugoslavia
YV Venezuela
YVφ Aves Island
ZA Albania
ZB1 Malta
ZB2 Gibraltar
ZC4 Cyprus
ZC5 British North Borneo
ZC6 Palestine
ZD1 Sierra Leone
ZD3 Gambia
ZD4 Gold Coast, Togoland
ZD6 Nyasaland
ZD7 St. Helena
ZD8 Ascension Island
ZD9 Tristan da Cunha & Gough Island
ZE Southern Rhodesia
ZK1 Cook Islands
ZK1 Manihiki Islands
ZK2 Niue
ZL Auckland & Campbell Islands
ZL Chatham Islands
ZL Kermadec Islands
ZL New Zealand
ZL5 (See CE9)
ZM6 British Samoa
ZM7 Tokelau
ZP Paraguay
ZS1, 2, 4, 5, 6 Union of South Africa
ZS2 Prince Edward & Marion Islands
ZS3 Southwest Africa
ZS7 Swaziland
ZS8 Basutoland
ZS9 Bechuanaland
3A Monaco
3V8 Tunisia
4S7 Ceylon
4W1 Yemen
4X4 Israel
5A Libya
5N2 Nigeria
5R8 Malagasy Republic
5T Mauritania
5U7 Niger Republic
5V Togo Republic
6O1,2 Somali Republic
6W8 Senegal Republic
7G1 Republic of Guinea
9G1 Ghana
9K2 Kuwait
9K3 Kuwait/Saudi Arabia Neutral Zone
9M2 Malaya
9N1 Nepal
9Q5, OQ5, φ Republic of Congo
9S4 Saar
9U5 Ruanda-Urundi
Aldabra Islands
Cambodia

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Mosley TA-31 is an excellent beginning to your budget planned antenna system. Operates on 10, 15 & 20 meters, as a rotatable dipole, giving excellent performance over full band width.

- 1 Mosley TA-31 Rated to 1 KW. *Amateur Net \$25.65*
Mosley TA-31 Jr. Rated to 300 Watts. *Amateur Net \$19.75*

Mosley TA-31/32 Conversion Kit adds a second element to Mosley TA-31 converting to Mosley TA-32, 10, 15 & 20 meter beam. Contains reflector element, 7' boom and all necessary hardware.

- 2 Mosley TA-31/32 Rated to 1 KW. *Amateur Net \$43.65*
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Mosley TA-32 Rated to 1 KW. *Amateur Net \$69.50*
Mosley TA-32 Jr. Rated to 300 Watts. *Amateur Net \$49.50*

Mosley TA-32/33 Conversion Kit adds a third element to the Mosley TA-32 converting to the "World Famous" Mosley TA-33, 10, 15 & 20 meter beam. Contains director element, 7' boom, boom splice and all necessary hardware.

- 3 Mosley TA-32/33 Rated to 1 KW. *Amateur Net \$30.25*
Mosley TA-32/33 Jr. Rated to 300 Watts. *Amateur Net \$25.85*
Mosley TA-33 Rated to 1 KW. *Amateur Net \$99.75*
Mosley TA-33 Jr. Rated to 300 Watts. *Amateur Net \$69.50*

Mosley TA-40K adds "Forty Meters" to any of the models rated to 1KW listed above. Contains radiator traps and all necessary hardware. Mosley TA-40K and Mosley TA-33 can be ordered as a complete antenna package, Mosley TA-3340. When added, Mosley TA-40K does not effect the characteristics of the primary antenna and operates as a 1/2 wave rotatable dipole on 40 meters. Rated to 1KW.

- Mosley TA-40K 40 meter adapter *Amateur Net \$39.95*
Mosley TA-3340 *Amateur Net \$139.20*

[Dipole Connector DPC-1]

Mosley DPC-1 Dipole Connector is an excellent companion to all dipole antennas. Molded of durable Cycloc plastic. Weatherproof. *Amateur Net \$1.49*

"DX-ABILITY" RD-5 for "SWL'S"

Mosley RD-5 is for the "Ham" who monitors the five favorite amateur frequencies 10, 15, 20, 40 and 75/80 meter bands. Mosley RD-5 operates as a 1/2 wave dipole on each band yet is only 69' 1" long. Your receiver will seem to have exciting new performance. Traps are weatherproof. Feed with 75 ohm line furnished.

- Mosley RD-5 *Amateur Net \$15.75*

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Mosley "Towermaster" is the perfect mate to your rotary beam. Available in many types to fit every installation requirement. Mosley "Towermaster" has 10 and 20 foot sections, safety clips, low friction section guides, ball bearing pulleys, pre-drilled rotor plates, geared raising winches and many more outstanding features to provide an installation you can be proud of. Available in epoxy resin or hot dipped galvanized finish.

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Receiver

1ST LOW PRICED
RECEIVER WITH DOUBLE CONVERSION AND
CRYSTAL CONTROLLED FIRST OSCILLATOR.

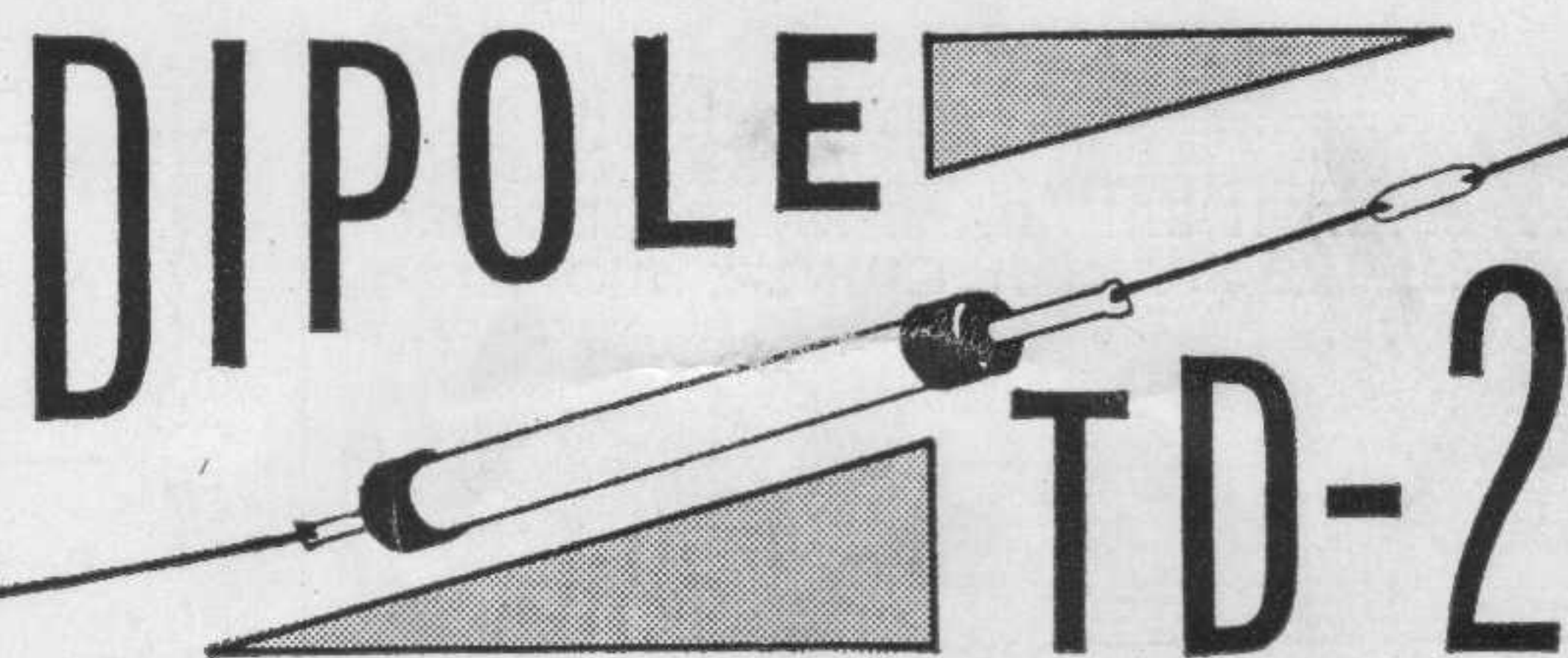
1ST RECEIVER WITH 5 DUAL-PURPOSE TUBES
OF ONE TYPE AND 4 SEMI-CONDUCTOR DIODES
WHICH PERFORM ALL FUNCTIONS USUALLY
REQUIRING 12 OR MORE TUBE SECTIONS.

1ST LOW PRICED RECEIVER WITH SELECTIV-
ITY, SENSITIVITY & STABILITY THAT EQUALS
RECEIVERS SELLING FOR \$100.00 OR MORE
HIGHER.

Mosley CM-1 Receiver less speaker
. . . . Amateur Net \$182.70

Mosley CMS-1 Matching Speaker
. . . . Amateur Net \$16.95

Slightly higher west of Rockies and outside U.S.A.



Mosley TD-2, Trap Dipole, is an ideal antenna for 40 & 80 meters where a bi-directional pattern is desired. Supplied with famous Mosley "senior" trap assemblies, #14 copperweld wire, heavy duty ceramic insulators and Mosley DPC-1 Heavy Duty Connector. Overall length 114' 11". Weighs just 7 lbs. *Amateur Net \$37.54*

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Mosley has a complete line of high performance verticals to fit every installation need. Compact for minimum wind resistance, pretuned and completely rustproof for years of satisfactory operation.

Mosley V-3, 10, 15 and 20 meter vertical, rated to 1 KW. *Amateur Net \$22.95*

Mosley V-4-6, 10, 15, 20 and 40 meter vertical, rated to 1 KW. *Amateur Net \$27.95*

Mosley V-4-8, 40 and 80 meter vertical, rated to 1 KW. *Amateur Net \$85.00*

Mosley V-5, 10, 15, 20, 40 and 80 meter vertical, rated to 1 KW. *Amateur Net \$118.50*

Mosley Lo//Ten Coaxial Cable

- Light Weight!
- Higher Tensile Strength!
- 30 % Lower Attenuation!
- 20 - Year Life Expectancy!
- Suitable for direct burial!

Mosley Type Similar To
MT 4-50 _____ RG- 8/U
MT 5-50 _____ RG-58/U
MT10-50 _____ RG-17/U

Prices Subject To Change Without Notice!

INTERNATIONAL RADIO AMATEUR PREFIXES

The following prefixes are listed in alphabetical order for convenience in locating the country when DX calls are heard.

AC3 SIKKIM
AC4 TIBET
AC5 BHUTAN
AP PAKISTAN
BV FORMOSA
BY, (C) CHINA
C9 MANCHURIA
CE CHILE
CEφA EASTER ISLAND
CEφZ JUAN FERNANDEZ IS.
CM-CO CUBA
CN MOROCCO
CN9 MOROCCO (Zona Norte)
CP BOLIVIA
CR4 CAPE VERDE ISLANDS
CR5 PORTUGUESE GUINEA
CR6 ANGOLA
CR7 MOZAMBIQUE
CR8 GOA
CR9 MACAO
CR10 TIMOR ISLAND (Port.)
CT1 PORTUGAL
CT2 AZORES ISLANDS
CT3 MADEIRA ISLANDS
CX URUGUAY
DJ, DL WEST GERMAN FEDERAL REP.
DM EAST GERMAN DEMOCRATIC REP.
DU PHILIPPINE ISLANDS
EA SPAIN
EA6 BALEARIC ISLANDS
EA8 CANARY ISLANDS
EA9 SPANISH SAHARA, IFNI, RIO DE ORO
EAφ SPANISH GUINEA, RIO MUNI
EI IRELAND
EL LIBERIA
EP, EQ IRAN
ET2 ERITREA
ET3 ETHIOPIA
F FRANCE
FA ALGERIA
FB8 AUSTRAL and ANTARCTIC FRENCH LANDS,
Amsterdam, Crozet, St. Paul, Kerguelen Is.
FC CORSICA
FD8 TOGO
FE8 CAMEROUN
FG7 GUADELOUPE
FH8 COMORO ISLANDS
FK8 NEW CALEDONIA
FL8 FRENCH SOMALILAND
FM7 MARTINIQUE
FO8 FRENCH OCEANIA, CLIPPERTON IS.
FP8 MIQUELON & ST. PIERRE IS.
FR7 REUNION ISLAND
FS7 SAINT MARTIN
FU8 NEW HEBRIDES
FW8 WALLIS & FUTUNA ISLANDS
FY7 FRENCH GUIANA
G ENGLAND
GC CHANNEL ISLANDS
GD ISLE OF MAN
GI NORTHERN IRELAND
GM SCOTLAND
GW WALES
HA HUNGARY
HB SWITZERLAND
HC ECUADOR
HC8 GALAPAGOS ISLANDS
HE9L LIECHTENSTEIN
HH HAITI
HI DOMINICAN REPUBLIC
HK COLOMBIA
HKφ SAN ANDRES & PROVIDENCIA
HM, HL9 KOREA
HP PANAMA
HR HONDURAS
HS THAILAND
HV VATICAN CITY
HZ SAUDI ARABIA
I ITALY
IS SARDINIA
IT SICILY
JA JAPAN
JT1 MONGOLIA
JY JORDAN
JZφ NETHERLANDS NEW GUINEA
K UNITED STATES
KA U. S. PERSONNEL IN JAPAN
KB6 BAKER, CANTON, ENDERBURY,
HOWLAND & PHOENIX ISLANDS
KC4 NAVASSA IS.

KC4US ANTARCTICA
KC6 CAROLINE ISLANDS
KG1 U. S. PERSONNEL IN GREENLAND
KG4 GUANTANAMO BAY, CUBA
KG6 MARIANAS ISLANDS (Guam)
KG6I VOLCANO ISLANDS
KG6S SAIPAN ISLAND
KG6T TINIAN ISLAND
KH6 HAWAIIAN ISLANDS
KJ6 JOHNSTON ISLAND
KL7 ALASKA
KM6 MIDWAY ISLAND
KP4 PUERTO RICO
KP6 PALMYRA & JARVIS ISLANDS
KR6, KR8 RYUKYU IS. (Okinawa)
KS4 SWAN ISLAND
KS4B SERRANA BANK & RONCADOR CAY
KS6 U. S. SAMOA
KV4 VIRGIN ISLANDS
KW6 WAKE ISLAND
KX6 MARSHALL ISLANDS
KZ5 CANAL ZONE
LA NORWAY, SVALBARD, JAN MAYEN IS.
LU ARGENTINA
LX LUXEMBOURG
LZ BULGARIA
M1 SAN MARINO
MP4 BAHREIN IS., DAS IS., MUSCAT &
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OD5 LEBANON
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OH FINLAND
OHφ ALAND ISLANDS
OK CZECHOSLOVAKIA
ON BELGIUM
OX GREENLAND
OY FAEROES IS.
OZ DENMARK
PA, PI NETHERLANDS
PJ NETHERLANDS ANTILLES
PJ2M SINT MAARTEN
PK INDONESIA
PX ANDORRA
PY BRAZIL
PYφ TRINDADE & MARTIM VAZ IS. &
FERNANDO DE NORONHA IS.
PZ SURINAM (Netherlands Guiana)
SL, SM SWEDEN
SP POLAND
ST SUDAN
SU EGYPT
SV CRETE & GREECE
SV5 DODECANESE ISLANDS
TA TURKEY
TF ICELAND
TG GUATEMALA
TI COSTA RICA
TI9 COCOS ISLAND
TL8 CENTRAL AFRICAN REP.
TN8 REPUBLIC OF CONGO
TR8 GABON REPUBLIC
TT8 TCHAD REPUBLIC
TU2 IVORY COAST
TY2 DAHOMEY REPUBLIC
TZ MALI REPUBLIC
UA1-3-4-6 EUROPEAN RUSSIAN SOCIALIST
FEDERATED SOVIET REPUBLIC
UA9-φ ASIATIC RUSSIAN S. F. S. R.
UB5 UKRAINE
UC2 WHITE RUSSIAN S.S.R.
UD6 AZERBAIJAN
UF6 GEORGIA
UG6 ARMENIA
UH8 TURKMEN
UI8 UZBEK
UJ8 TADZHIK
UL7 KAZAKH
UM8 KIRGHIZ
UN1 KARELO-FINNISH REPUBLIC
UO5 MOLDAVIA
UP LITHUANIA
UQ LATVIA
UR ESTONIA
VE CANADA
VK AUSTRALIA
VK2 LORD HOWE ISLAND
VK7 TASMANIA
VK9 NEW GUINEA, PAPUA, NORFOLK,
NAURU, CHRISTMAS & COCOS-KEELING IS.
VKφ ANTARCTICA, HEARD & MACQUARIE IS.
VO1 NEWFOUNDLAND

VO2 LABRADOR
VP1 BRITISH HONDURAS
VP2 FEDERATION OF BRITISH TERRITORIES
IN THE CARIBBEAN
VP3 BRITISH GUIANA
VP4 TRINIDAD & TOBAGO IS.
VP5 JAMAICA, CAYMAN, TURKS
& CAICOS IS.
VP6 BARBADOS
VP7 BAHAMA ISLANDS
VP8 FALKLAND ISLANDS
South Georgia, South Orkney, South
Sandwich and South Shetland Is.
VP9 BERMUDA ISLANDS
VQ1 ZANZIBAR
VQ2 NORTHERN RHODESIA
VQ4 KENYA
VQ5 UGANDA
VQ8 CHAGOS, MAURITIUS & RODRIGUEZ IS.
VQ9 SEYCHELLES
VR1 GILBERT, ELLICE & OCEAN ISLANDS
VR2 FIJI ISLANDS
VR3 LINE ISLANDS
VR4 SOLOMON ISLANDS
VR5 TONGA (Friendly) ISLAND
VR6 PITCAIRN ISLAND
VS1 SINGAPORE
VS4 SARAWAK
VS5 BRUNEI
VS6 HONG KONG
VS9 ADEN, SOCOTRA, KAMARAN &
MALDIVE IS.
VU INDIA
VU4 LACCADIVE ISLANDS
VU5 ANDAMAN & NICOBAR IS.
W UNITED STATES
XE MEXICO
XE4 REVILLA GIGEDO IS.
XT2 Rep. of UPPER VOLTA
XU CAMBODIA
XW8 LAOS
XZ BURMA
YA AFGHANISTAN
YI IRAQ
YJ NEW HEBRIDES
YK SYRIA
YN NICARAGUA
YO RUMANIA
YS EL SALVADOR
YT, YU YUGOSLAVIA
YV VENEZUELA
ZA ALBANIA
ZB1 MALTA
ZB2 GIBRALTAR
ZC4 CYPRUS
ZC5 BRITISH NORTH BORNEO
ZD1 SIERRA LEONE
ZD3 GAMBIA
ZD6 NYASALAND
ZD7 SAINT HELENA
ZD8 ASCENSION ISLAND
ZD9 TRISTAN DA CUNHA & GOUGH ISLANDS
ZE SOUTHERN RHODESIA
ZK1 COOK ISLANDS
ZK2 NIUE
ZL NEW ZEALAND
ZL1 KERMADEC
ZM WESTERN SAMOA
ZP PARAGUAY
ZS Rep. of SOUTH AFRICA
ZS2 PRINCE EDWARD & MARION IS.
ZS3 SOUTHWEST AFRICA
ZS7 SWAZILAND
ZS8 BASUTOLAND
ZS9 BECHUANALAND
3A2 MONACO
3V8 TUNISIA
3W8 VIETNAM
4S7 CEYLON
4W1 YEMEN
4X4 ISRAEL
5A LIBYA
5H3 TANGANYIKA
5N2 NIGERIA
5R8 MALAGASY REP. (Madagascar),
Tromelin Is.
5T5 MAURITANIA
5U7 NIGER
6O SOMALI REPUBLIC
6W8 SENEGAL
7G1 REPUBLIC OF GUINEA
9G1 GHANA
9K2 KUWAIT
9M2 FEDERATION OF MALAYA
9N1 NEPAL
9Q5 REPUBLIC OF THE CONGO
9U5 RUANDA-URUNDI

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SX110	16.00	8.50	169.95
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SX100	32.00	16.00	325.00
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SX115	59.00	29.50	599.50
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PREFIXES—BY COUNTRIES

The following countries listed in alphabetical order by country show international radio amateur prefixes. Characters in () designate the continent and zone in which the country is located. Abbreviations are as follows: A—Asia, AF—Africa, E—Europe, NA—North America, O—Oceania, SA—South America.

ADEN	(A-21)	VS9	GUANTANAMO BAY	(NA-8)	KG4	REUNION ISLAND	(AF-39)	FR7
AFGHANISTAN	(A-21)	YA	GUATEMALA	(NA-7)	TG	REVILLA GIGEDO	(NA-6)	XE4
ALAND ISLANDS	(E-14)	OH	GUIANA, BRITISH	(SA-9)	VP3	RHODESIA, NORTHERN	(AF-36)	VQ2
ALASKA	(NA-1)	KL7	GUIANA, FRENCH	(SA-9)	FY7	RHODESIA, SOUTHERN	(AF-38)	ZE
ALBANIA	(E-15)	ZA	GUINEA, PORTUGUESE	(AF-35)	CR5	RIO DE ORO	(AF-33)	EA9
ALGERIA	(AF-33)	FA	GUINEA, REPUBLIC OF	(AF-35)	7G1	RIO MUNI	(AF-36)	EA
AMSTERDAM & ST. PAUL IS.	(AF-39)	FB8	HAITI	(NA-8)	HH	RODRIGUEZ ISLAND	(AF-39)	VQ8
ANDAMAN & NICOBAR IS.	(A-26)	VU5	HAWAIIAN ISLANDS	(O-31)	KH6	RUANDA-URUNDI	(AF-36)	9U5
ANDORRA	(E-14)	PX	HEARD ISLAND	(O-39)	VK	RUMANIA	(E-20)	YO
ANGOLA	(AF-36)	CR6	HONDURAS	(NA-7)	HR	RYUKYU ISLANDS	(A-25)	KR6, KR8
ANGUILLA	(NA-8)	VP2	HONG KONG	(A-24)	VS6	SAINT HELENA	(AF-36)	ZD7
ANTARCTICA	(SA-13)	KC4US	HOWLAND ISLAND	(O-31)	KB6	SAINT KITTS, NEVIS	(NA-8)	VP2
ANTARCTICA	(O-30)	VK	HUNGARY	(E-15)	HA	SAINT LUCIA	(NA-8)	VP2
ANTIGUA, BARBUDA	(NA-8)	VP2	ICELAND	(E-40)	TF	SAINT MARTIN	(NA-8)	FS7
ARGENTINA	(SA-13)	LU	IFNI	(AF-33)	EA9	SAINT PIERRE ISLAND	(NA-5)	FP8
ASCENSION ISLAND	(AF-36)	ZD8	INDIA	(A-22)	VU	SAINT VINCENT IS.	(NA-8)	VP2
AUSTRALIA	(O-29 & 30)	VK	INDONESIA	(A-28)	PK	SAIPAN ISLAND	(O-27)	KG6S
AUSTRIA	(E-15)	OE	IRAN	(A-21)	EP, EQ	SAMOA (U.S.)	(O-32)	KS6
AZORES ISLANDS	(E-14)	CT2	IRAQ	(A-21)	YI	SAMOA, WESTERN	(O-32)	ZM
BAHAMA ISLANDS	(NA-8)	VP7	IRELAND	(E-14)	EI	SAN ANDRES & PROVIDENCIA	(NA-7)	HK
BAHREIN ISLANDS	(A-21)	MP4	ISLE OF MAN	(E-14)	GD	SAN MARINO	(E-15)	M1
BAKER ISLAND	(O-31)	KB6	ISRAEL	(A-20)	4X4	SARAWAK	(O-28)	VS4
BALEARIC ISLANDS	(E-14)	EA6	ITALY	(E-15)	I	SARDINIA	(E-15)	IS
BARBADOS	(NA-8)	VP6	IVORY COAST	(AF-35)	TU2	SAUDI ARABIA	(A-21)	HZ
BASUTOLAND	(AF-38)	ZS8	JAMAICA	(NA-8)	VP5	SCOTLAND	(E-14)	GM
BECHUANALAND	(AF-38)	ZS9	JAN MAYEN ISLAND	(E-40)	LA	SENEGAL	(AF-35)	6W8
BELGIUM	(E-14)	ON	JAPAN	(A-25)	JA	SERRANA BANK & RONCADOR CAY	(NA-7)	KS4B
BERMUDA ISLANDS	(NA-5)	VP9	JARVIS ISLAND	(O-31)	KP6	SEYCHELLES	(AF-39)	VQ9
BHUTAN	(A-22)	AC5	JAVA	(O-28)	PK1-2-3	SICILY	(E-15)	IT
BOLIVIA	(SA-10)	CP	JOHNSTON ISLAND	(O-31)	KJ6	SIERRA LEONE	(AF-35)	ZD1
BORNEO	(O-28)	PK5	JORDAN	(A-20)	JY	SIKKIM	(A-22)	AC3
BRAZIL	(SA-11)	PY	JUAN FERNANDEZ IS.	(SA-12)	CE	SINGAPORE	(A-28)	VS1
BRITISH HONDURAS	(NA-7)	VP1	KAMARAN IS.	(A-21)	VS9	SINT MAARTEN	(NA-8)	PJ2M
BRITISH NORTH BORNEO	(A-28)	ZC5	KENYA	(AF-37)	VQ4	SOCOTRA ISLAND	(AF-37)	VS9
BRITISH PHOENIX ISLANDS	(O-31)	VR1	KERGUELEN ISLANDS	(AF-39)	FB8	SOLOMON ISLANDS	(O-28)	VR4
BRITISH TERRITORIES IN THE CARIBBEAN, FED. OF	(NA-8)	VP2	KERMADEC ISLANDS	(O-32)	ZL1	SOMALI REPUBLIC	(AF-37)	6O
BRITISH VIRGIN ISLANDS	(NA-8)	VP2	KOREA	(A-25)	HM, HL9	SOMALILAND, French	(AF-37)	FL8
BRUNEI	(O-28)	VS5	KUWAIT	(A-21)	9K2	SOUTH AFRICA, Rep. of	(AF-38)	ZS
BULGARIA	(E-20)	LZ	LABRADOR	(NA-2)	VO2	SOUTH GEORGIA	(SA-13)	VP8
BURMA	(A-26)	XZ	LACCADIVE ISLANDS	(A-22)	VU4	SOUTH ORKNEY ISLANDS	(SA-13)	VP8
CAMBODIA	(A-26)	XU	LAOS	(A-26)	XW8	SOUTH SANDWICH ISLANDS	(SA-13)	VP8
CAMEROUN	(AF-36)	FE8	LEBANON REPUBLIC	(A-20)	OD5	SOUTH SHETLAND ISLANDS	(SA-13)	VP8
CANADA	(NA-1 to 5) VE, VO	VO	LIBERIA	(AF-35)	EL	SOUTHWEST AFRICA	(AF-38)	ZS3
CANAL ZONE	(NA-7)	KZ5	LIBYA	(AF-34)	5A	SOVIET UNION:		
CANARY ISLANDS	(AF-33)	EA8	LIECHTENSTEIN	(E-14)	HE9L	EUROPEAN RUSSIAN SOCIALIST		
CANTON ISLAND	(O-31)	KB6	LINE ISLANDS	(O-31)	VR3	FEDERATED SOVIET REP.	(E-16)	UA1, 3, 4, 6
CAPE VERDE ISLANDS	(AF-35)	CR4	LITTLE AMERICA	(SA-13)	KC4	ASIATIC RUSSIAN S.F.S.R.	(A-18, 19)	UA9, 6
CAROLINE ISLANDS	(O-27)	KC6	LORD HOWE ISLAND	(O-30)	VK2	UKRAINE	(E-16)	UB5
CAYMAN ISLANDS	(NA-8)	VP5	LUXEMBOURG	(E-14)	LX	WHITE RUSSIAN S.S.R.	(E-16)	UC2
CELEBES & MOLUCCA ISLANDS	(A-28)	PK6	MACAO	(A-24)	CR9	AZERBAIJAN	(E-21)	UD6
CENTRAL AFRICAN REPUB.	(AF-36)	TL8	MACQUARIE ISLAND	(O-30)	VK	GEORGIA	(E-21)	UF6
CEYLON	(A-22)	4S7	MADEIRA ISLANDS	(AF-33)	CT3	ARMENIA	(E-21)	UG6
CHAGOS ISLANDS	(AF-39)	VQ8	MALAGASY REP.	(AF-39)	5R8	TURKMEN	(A-17)	UH8
CHANNEL ISLANDS	(E-14)	GC	(Madagascar)	(AF-39)	5R8	UZBEK	(A-17)	UI8
CHILE	(SA-12)	CE	MALAYA, FEDERATION OF	(A-28)	9M2	TADZHIK	(A-17)	UI8
CHINA	(A-23 & 24)	BY	MALDIVES ISLANDS	(A-22)	VS9	KAZAKH	(A-17)	UL7
CHRISTMAS ISLAND	(O-29)	VK9	MALI REPUBLIC	(AF-35)	TZ	KIRGHIZ	(A-17)	UM8
CLIPPERTON ISLAND	(NA-7)	FO8	MALTA	(E-15)	ZB1	KARELO-FINNISH REP.	(E-16)	UN1
COCOS ISLAND	(NA-7)	TI9	MANCHURIA	(A-24)	C9	MOLDOVIA	(E-16)	UO5
COCOS-KEELING IS.	(O-29)	VK9	MARIANAS ISLANDS (Guam)	(O-27)	KG6	LITHUANIA	(E-15)	UP
COLOMBIA	(SA-9)	HK	MARSHALL ISLANDS	(O-31)	KX6	LATVIA	(E-15)	UQ
COMORO ISLANDS	(AF-39)	PH8	MARTINIQUE	(NA-8)	FM7	ESTONIA	(E-15)	UR
CONGO REPUBLIC	(AF-36)	TN8	MAURITANIA	(AF-35)	5T5	SPAIN	(E-14)	EA
CONGO, REPUBLIC OF THE	(AF-36)	9Q5	MAURITIUS IS.	(AF-39)	VQ8	SPANISH GUINEA	(AF-36)	EA
COOK ISLANDS	(O-32)	ZK1	MEXICO	(NA-6)	XE	SPANISH SAHARA	(A-33)	EA9
CORSICA	(E-15)	FC	MIDWAY ISLAND	(O-31)	KM6	SUDAN	(AF-34)	ST
COSTA RICA	(NA-7)	TI	MIQUELON ISLAND	(NA-5)	FP8	SUMATRA	(A-28)	PK4
CRETE	(E-20)	SV	MONACO	(E-14)	3A2	SURINAM (Netherlands Guiana)	(SA-9)	PZ
CROZET ISLAND	(AF-39)	FB8	MONGOLIA	(A-23)	JT1	SVALBARD	(E-40)	LA
CUBA	(NA-8)	CM, CO	MONTERRAT	(NA-8)	VP2	SWAN ISLAND	(NA-7)	KS4
CYPRUS	(A-20)	ZC4	MOROCCO	(AF-33)	CN	SWAZILAND	(AF-38)	ZS7
CZECHOSLOVAKIA	(E-15)	OK	MOROCCO (Zona Norte)	(AF-33)	CN9	SWEDEN	(E-14)	SL, SM
DAHOMY REPUBLIC	(AF-35)	TY2	MOZAMBIQUE	(AF-37)	CR7	SWITZERLAND	(E-14)	HB
DAS ISLAND	(A-21)	MP4	MUSCAT & OMAN	(A-21)	MP4	SYRIA	(A-20)	YK
DENMARK	(E-14)	OZ	NAURU ISLAND	(O-31)	VK9	TANGANYIKA	(AF-37)	5H3
DOECANESE ISLANDS	(E-20)	SV5	NAVASSA ISLAND	(NA-8)	KC4	TASMANIA	(O-30)	VK7
DOMINICA	(NA-8)	VP2	NEPAL	(A-22)	9N1	TCHAD REPUBLIC	(AF-36)	TT8
DOMINICAN REPUBLIC	(NA-8)	HI	NETHERLANDS	(E-14)	PA, PI	THAILAND	(A-26)	HS
EASTER ISLAND	(SA-12)	CE	NETHERLANDS ANTILLES	(SA-9)	PJ	TIBET	(A-23)	AC4
ECUADOR	(SA-10)	HC	NETHERLANDS NEW GUINEA	(O-28)	JZ	TIMOR, Portuguese	(O-28)	CR10
EGYPT	(AF-34)	SU	NEW CALEDONIA	(O-32)	FK8	TINIAN ISLAND	(O-27)	KG6T
EL SALVADOR	(NA-7)	YS	NEWFOUNDLAND	(NA-5)	VO1	TOGO	(AF-35)	FD8
ENDERBURY ISLAND	(O-31)	KB6	NEW GUINEA, N.E.	(O-28)	VK9	TONGA (Friendly) ISLANDS	(O-32)	VR5
ENGLAND	(E-14)	G	NEW HEBRIDES	(O-32)	FU8, YJ	TRIESTE	(E-15)	II
ERITREA	(AF-37)	ET2	NEW ZEALAND	(O-32)	ZL	TRINIDADE & MARTIM		
ETHIOPIA	(AF-37)	ET3	NICARAGUA	(NA-7)	YN	VAZ IS.	(SA-11)	PY
FAEROES ISLANDS	(E-14)	OY	NIGER	(AF-35)	5U7	TRINIDAD & TOBAGO	(SA-9)	VP4
FALKLAND ISLANDS	(SA-13)	VP8	NIGERIA	(AF-35)	5N2	TRISTAN da CUNHA & GOUGH ISLANDS	(AF-38)	ZD9
FANNING ISLAND	(O-31)	VR3	NIUE	(O-32)	ZK2	TROMELIN ISLAND	(AF-39)	FB8
FERNANDO DE NORONHA	(SA-11)	PY	NORFOLK ISLAND	(O-32)	VK9	TRUCIAL OMAN	(A-21)	MP4
FIJI ISLANDS	(O-32)	VR2	NORTHERN IRELAND	(E-14)	GI	TUNISIA	(AF-33)	3V8
FINLAND	(E-15)	OH	NORWAY	(E-14)	LA	TURKEY	(A-20)	TA
FORMOSA	(A-24)	BV	NYASALAND	(AF-37)	ZD6	TURKS & CAICOS ISLANDS	(NA-8)	VP5
FRANCE	(E-14)	F	OKINAWA	(A-25)	KR6, KR8	UGANDA	(AF-37)	VQ5
FRENCH OCEANIA	(O-32)	FO8	OMAN	(A-21)	MP4	UNITED STATES of AMERICA	(NA-3, 4, 5)	W, K
GABON REPUBLIC	(AF-36)	TR8	PAKISTAN	(A-21, 22)	AP	UPPER VOLTA, Rep. of	(AF-35)	XT2
GALAPAGOS ISLANDS	(SA-10)	HC8	PALMYRA ISLANDS	(O-31)	KP6	URUGUAY	(SA-13)	CX
GAMBIA	(AF-35)	ZD3	PANAMA	(NA-7)	HP	VATICAN CITY	(E-15)	HV
GERMAN FEDERAL REP., WEST	(E-14)	DJ, DL	PAPUA TERRITORY	(O-28)	VK9	VENEZUELA	(SA-9)	YV
GERMAN DEMOCRATIC REP., EAST	(E-14)	DM	PARAGUAY	(SA-11)	ZP	VIETNAM	(A-26)	3W8
GHANA	(AF-35)	9G1	PERU	(SA-10)	OA	VIRGIN ISLANDS	(NA-8)	KV4
GIBRALTAR	(E-14)	ZB2	PHILIPPINE ISLANDS	(O-27)	DU	VOLCANO IS.	(O-27)	KG6I
GILBERT ISLANDS	(O-31)	VR1	PHOENIX ISLANDS	(O-31)	KB6	WAKE ISLAND	(O-31)	KW6
GOA	(A-22)	CR8	PITCAIRN ISLAND	(O-32)	VR6	WALES	(E-14)	GW
GREECE	(E-20)	SV	POLAND	(E-15)	SP	WALLIS & FUTUNA ISLANDS	(O-32)	FW8
GREENLAND	(NA-40)	OX	PORTUGAL	(E-14)	CT1	YEMEN	(A-21)	4W1
GUADELOUPE	(NA-8)	FG7	PRINCE EDWARD & MARION ISLANDS	(AF-38)	ZS2	YUGOSLAVIA	(E-15)	YT, YU
GUAM	(O-27)	KG6	PUERTO RICO	(NA-8)	KP4	ZANZIBAR	(AF-37)	VQ1
			QATAR	(A-21)	MP4			

AN APPEAL TO INTELLIGENCE

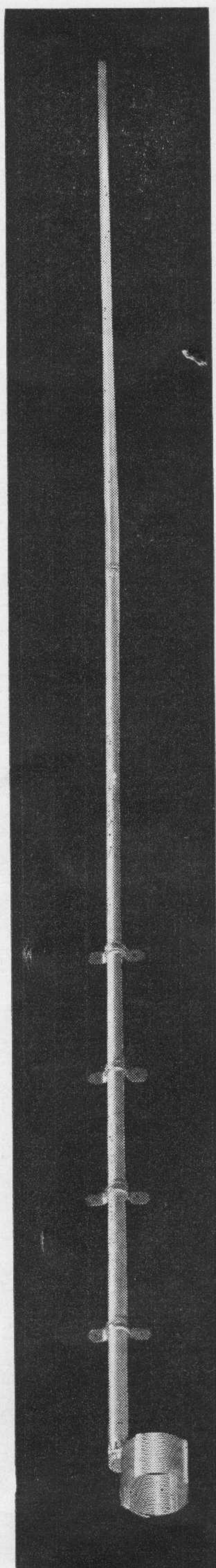
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- Multi-band, V80 works 80, 40, 20, 15, 10, 6.
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2405 Bowditch, Berkeley 4, California
January 31, 1959

Gentlemen:

I just thought I would drop you a line and let you know how pleased I am with your V-80 vertical antenna. I have been using it for almost two years now, and am positively amazed at its performance with my QRP 65 watts input! Let me show you what I mean:

I have worked over 100 countries and have received very fine reports from many DX stations, including 599 reports from every continent except Europe (589)! I have also worked enough stations for my WAC, WAS, WAJAD and ADXC awards, and I am in the process of working for several other awards. And all this with your GOTHAM V-80 vertical antenna!

Frankly, I fail to see how anyone could ask for better performance with such low power, limited space and a limited budget. In my opinion, the V-80 beats them all in its class.

I am enclosing a list of DX countries I have worked to give you an idea of what I have been talking about.

Wishing you the best for 1959, I am

Sincerely yours,

Thomas G. Gabbert, K6INI (Ex-T12TG)

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264	322	47	24	25	301	343	15	86	269	297	320	7	271	310	251	347	145	306	281	281	347	154	345	331	321	234	48	64	48	278	27	318	296	289	308	48	84
82	326	50	31	40	304	356	26	84	268	299	328	17	270	312	246	5	125	314	287	281	10	142	355	338	0	219	52	67	53	278	37	333	298	290	309	53	83
132	137	92	97	115	209	114	105	124	167	205	133	104	198	273	165	119	132	148	150	233	123	135	109	108	131	151	99	111	102	217	106	134	237	249	282	107	119
236	241	291	277	247	278	273	267	226	254	275	275	274	262	293	246	263	220	268	253	273	256	207	278	286	249	237	235	219	233	268	258	262	280	280	295	236	217
208	217	291	92	206	273	264	237	192	241	269	268	261	252	290	231	243	191	258	237	267	231	184	274	286	225	219	118	160	134	261	199	248	276	276	293	159	174
208	223	307	61	24	287	309	359	174	251	282	293	345	260	300	238	293	180	279	251	274	270	174	316	311	245	223	66	108	71	269	31	275	286	282	301	80	143
108	112	26	76	91	81	81	103	140	187	83	79	189	319	143	90	113	101	119	241	95	119	76	62	104	128	81	92	83	219	84	98	268	262	303	87	100	
161	175	302	82	78	125	272	93	144	221	266	268	80	242	293	210	151	155	245	208	262	157	156	350	308	173	190	91	116	97	254	101	212	274	272	295	106	131
197	209	297	80	55	179	277	277	176	240	272	275	310	252	293	228	245	180	261	235	268	226	175	290	296	219	214	95	136	105	262	127	250	278	277	296	124	156
268	267	317	41	10	354	299	329	356	270	295	311	350	271	308	256	326	189	300	279	282	320	174	331	323	297	246	39	53	37	279	7	305	295	290	307	33	85
81	82	349	57	49	61	325	36	50	80	319	15	45	266	325	157	47	97	15	61	280	55	112	32	11	65	115	60	71	61	277	55	40	308	291	315	63	80
103	107	22	73	72	87	6	75	77	99	134	74	74	189	325	138	84	109	91	112	246	90	116	70	55	98	124	78	88	80	224	80	91	283	267	308	83	96
134	144	318	80	78	105	271	84	87	123	197	262	81	231	297	187	105	135	197	171	257	116	141	69	5	133	165	87	104	91	247	92	137	273	270	296	97	115
188	200	295	86	79	164	273	263	129	168	233	268	268	248	291	222	224	174	254	227	265	208	171	282	292	206	207	100	133	109	258	128	238	275	274	294	124	151
77	78	14	58	54	64	8	50	56	76	79	8	42	53	345	98	57	86	48	71	285	62	97	46	33	68	92	61	69	62	290	59	57	335	298	327	64	75
112	116	85	84	88	100	133	97	93	108	134	141	105	92	162	136	101	115	115	122	203	105	119	94	91	111	127	89	98	92	180	94	109	179	224	283	95	104
64	60	348	50	40	49	329	25	39	67	338	325	6	34	285	327	34	84	3	26	288	40	103	22	5	46	86	52	60	53	289	45	24	314	297	319	5	68
166	185	308	72	58	110	281	332	62	143	234	276	290	41	250	298	220	157	267	226	267	168	158	338	316	188	199	80	107	85	261	80	251	281	277	298	94	127
327	309	324	33	9	1	308	339	0	8	286	304	323	355	282	314	273	340	314	300	288	338	163	341	332	326	271	29	34	28	287	8	323	303	295	312	23	39
120	129	332	72	67	90	288	60	73	111	196	278	15	66	236	306	184	82	126	157	262	95	134	50	9	113	157	78	93	81	253	79	97	282	275	302	85	105
97	104	335	59	48	65	307	26	48	92	243	300	352	41	260	315	208	43	114	338	276	55	128	21	356	71	158	62	76	64	271	56	22	297	286	309	67	89
81	82	41	62	61	70	52	62	65	79	88	57	60	62	100	19	96	67	87	81	70	94	59	52	76	92	65	71	66	95	67	69	35	319	348	68	78	
166	190	313	66	47	87	287	339	43	137	242	282	301	26	256	302	227	348	156	280	239	271	158	342	322	202	205	71	98	75	266	63	278	285	281	301	82	120
337	326	329	22	3	355	313	342	356	355	302	310	329	353	291	318	290	342	345	321	315	293	341	342	335	334	298	18	16	15	293	1	330	308	299	315	11	13
162	175	297	87	88	132	267	170	107	147	218	261	253	99	239	290	207	157	156	235	204	259	160	157	298	172	188	98	121	103	251	111	203	271	270	293	113	135
145	154	291	91	96	123	248	125	108	135	193	242	184	105	227	283	186	132	144	189	175	248	137	146	114	148	169	99	116	104	237	110	159	259	261	287	111	127
140	180	320	59	40	61	295	354	36	114	251	290	318	24	261	307	231	8	142	298	254	275	22	150	353	333	205	63	83	65	271	50						

The above table shows the great circle bearing in degrees, of various metropolitan areas in the United States in relationship to each other. This table should be used from left to right only. To find the great circle bearing between any two of the cities shown, start at the left and follow the horizontal line to the right until you come to the column directly under the name of the city that you desire to beam a radio

signal to. For all practical purposes in the United States, Polaris (the North Star), is due north. To find this star, to calibrate a directional radio beam, look for the first star on a straight line with the two outer stars on the outside edge of the cup of the big dipper. This table was compiled from information furnished by the U. S. Coast and Geodetic Survey. Copyright 1947, Radio Amateur Call Book, Inc.

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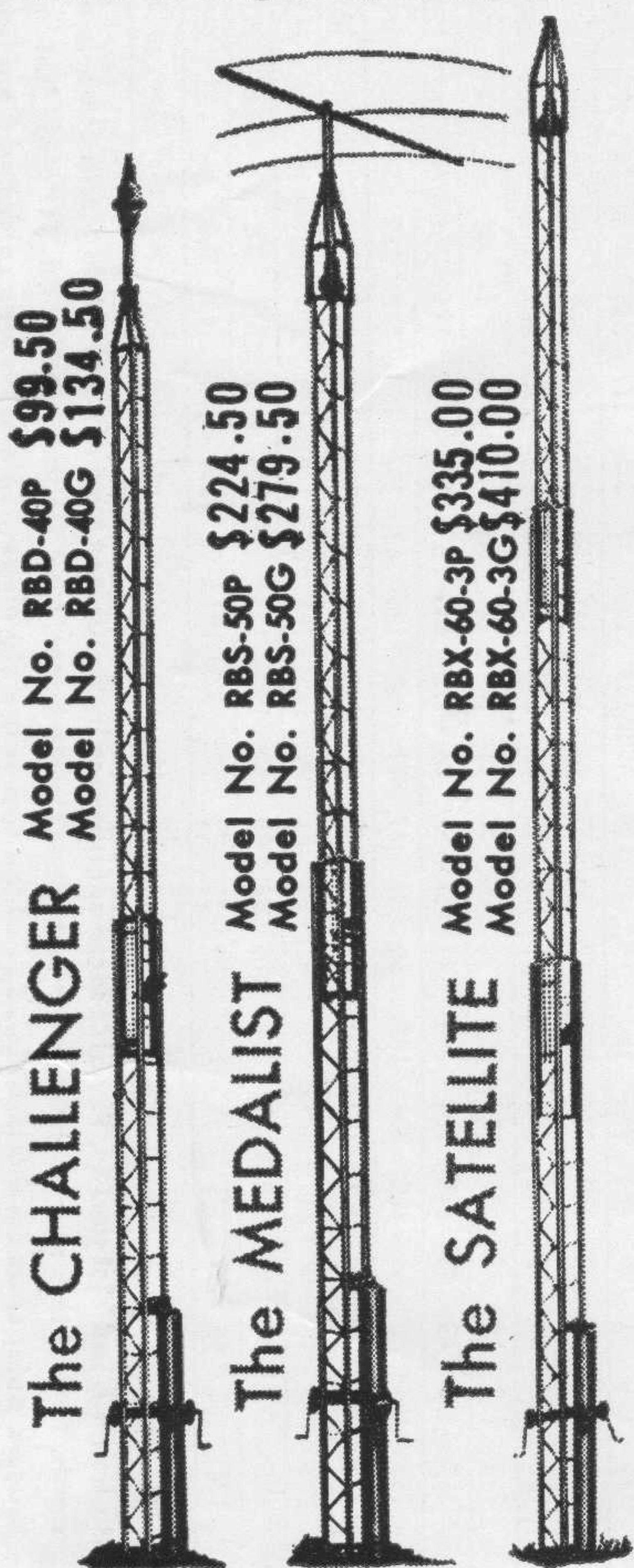


WORLD TIME CONVERSION CHART IN HOURS

Greenwich Meridian Time, London, Eng- land.	Central Europe, Ber- lin, Geneva, Stock- holm, Vienna.	Eastern Europe, Ath- ens, Cape Town, Cairo, Moscow	Arabia, Armenia, Af- ghanistan, Madagas- car.	Mauritius, Persia, Reu- nion Island.	Central Russia, Bom- bay, India.	Calcutta, Novosi- birsk, Russia, Tibet.	French Indo China, Siam, Sumatra.	Philippine Islands, Perth, Australia.	Central Australia, Tokyo, Japan.	Eastern Australia, Melbourne, Sydney.	New Caledonia.	International Date Line.	Fiji Islands.	Nome, Alaska.	Hawaiian Islands.	Eastern Alaska.	Pacific Standard Time, Los Angeles, Seattle.	Mountain Standard Time, Calgary, Denver, Phoenix.	Central Standard Time, Chicago, Costa Rica.	Eastern Standard Time, Montreal, New York, Peru.	Atlantic Standard Time, Argentina, Nova Scotia.	Greenland, Rio de Janeiro, Brazil.	Azores.	Canary Islands.
0000	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM
0100	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night
0200	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM
0300	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM
0400	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM
0500	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM
0600	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM
0700	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM
0800	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM
0900	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM
1000	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM
1100	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM
1200	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon
1300	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM
1400	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM
1500	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM
1600	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM
1700	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM
1800	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM
1900	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM
2000	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM
2100	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM
2200	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM
2300	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM

With this chart you can convert standard time in any time zone to GMT or tell what time it is in other parts of the world. To correctly use this chart visualize each horizontal line as a complete circle. From your time zone tracing horizontally to the right (Counter Clockwise) it will be tomorrow when you pass midnight and yesterday when you pass the international date line. To the left (Clockwise) it will be yesterday when you pass midnight and tomorrow when you pass the international date line. There is no change in date when you pass both midnight and the international date line going in one direction. For instance at 8 PM in New York Eastern Standard Time it is 2 AM tomorrow in Berlin, Germany and 11 AM tomorrow in Sydney, Australia. Always trace in the shortest direction from your time zone to find what time it is in any other zone. Copyright 1938 Radio Amateur Call Book, Inc., Chicago, USA.

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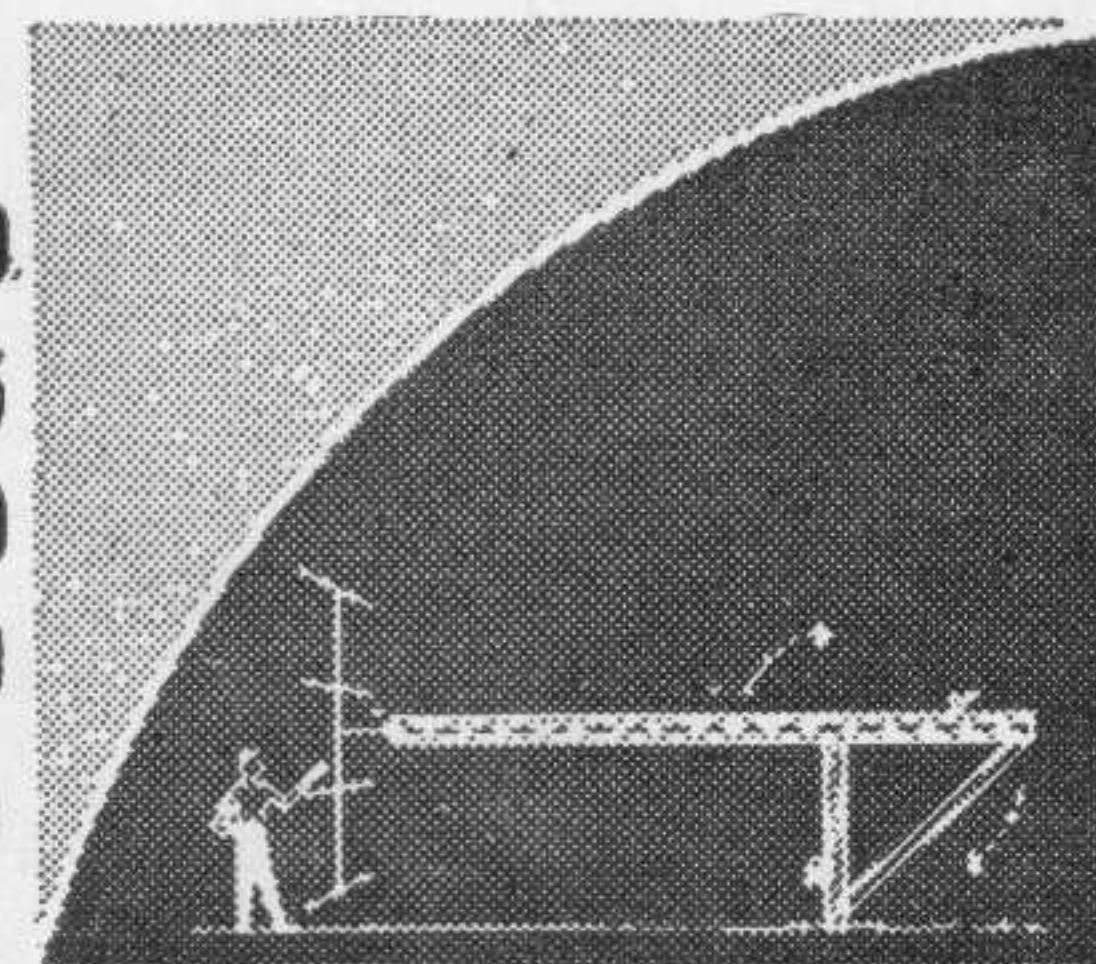
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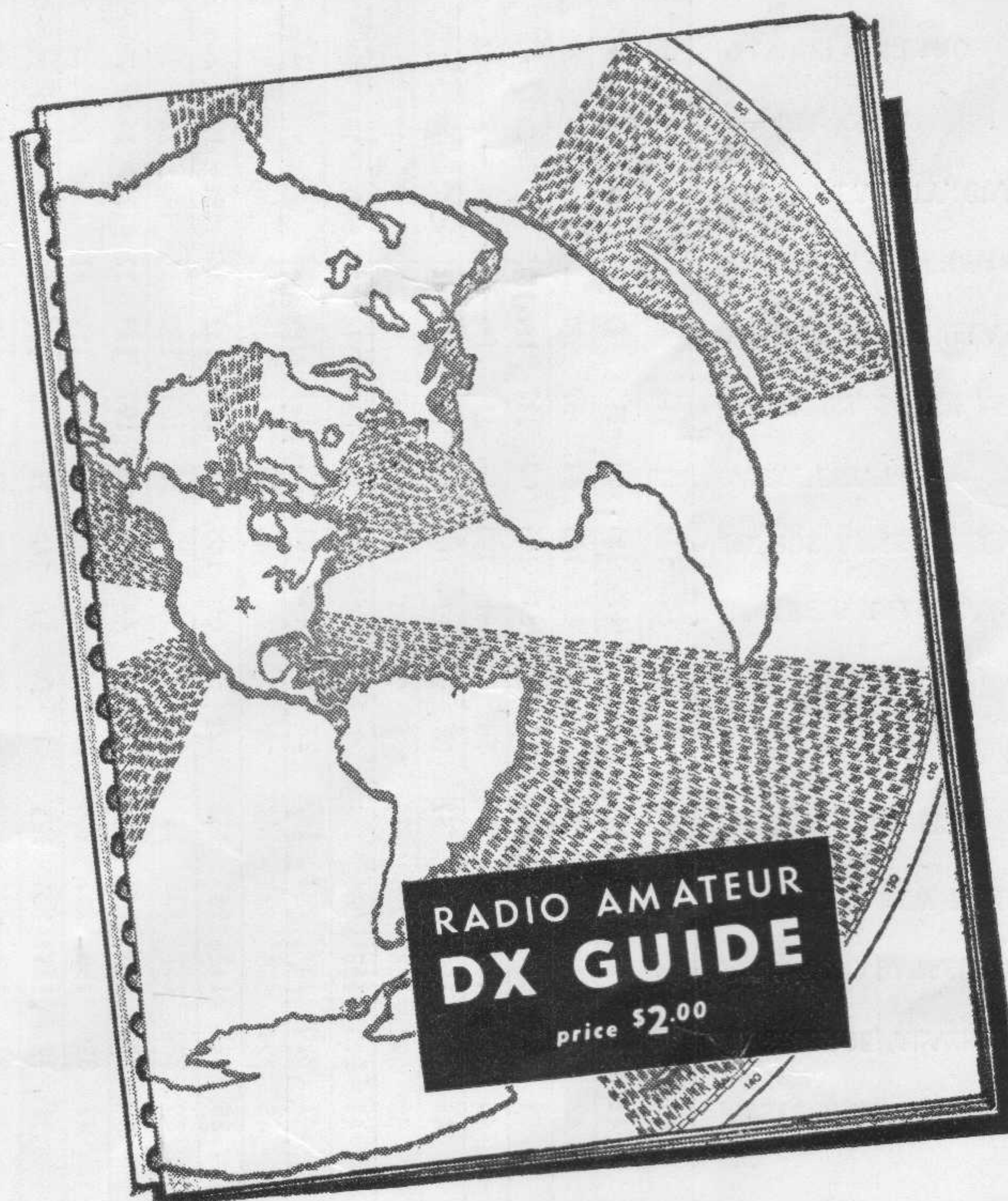
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ANCHORAGE, ALASKA	42	325	151	241	155	23	47	44	156	50	113	137	37	191	158	29	279	101	327	221	154	36	33	47	42	165	137	50	173	166	334	342	32	253	323	SYDNEY, AUSTRALIA
ASUNCION, PARAGUAY	42	315	141	240	143	7	45	43	146	40	97	131	35	162	142	27	261	81	317	177	145	84	33	46	39	151	129	46	153	155	325	328	30	256	314	STOCKHOLM, SWEDEN
AUCKLAND, NEW ZEALAND	51	321	167	253	186	36	56	53	169	60	117	172	45	217	210	36	284	105	346	235	168	331	40	56	50	191	153	59	205	181	349	7	39	270	335	SINGAPORE, MALAYA
BOMBAY, INDIA	49	320	160	250	172	29	53	51	163	55	112	159	42	203	189	34	279	99	338	222	161	54	38	53	47	179	146	56	189	173	342	356	37	266	329	SHANGHAI, CHINA
BOGOTA, COLOMBIA	46	322	156	246	167	28	50	47	160	53	113	151	40	201	183	32	279	101	334	224	159	37	36	50	45	175	143	53	185	170	339	351	35	259	327	SANTIAGO, CHILE
BUENOS AIRES, ARGENTINA	38	322	138	236	135	3	41	40	143	37	100	122	32	151	127	24	263	84	312	166	142	69	30	42	36	143	126	42	144	152	322	321	27	250	312	SAN JOSE, COSTA RICA
CAIRO, EGYPT	45	320	152	245	158	21	49	47	156	49	108	144	39	186	165	31	274	95	328	207	154	66	36	50	44	167	138	51	173	166	335	343	34	260	323	RIO DE JANEIRO, BRAZIL
CAPETOWN, SOUTH AFRICA	47	320	157	247	167	27	52	49	161	53	111	153	41	198	182	33	278	99	334	219	159	53	37	52	46	175	143	54	184	171	340	352	36	263	327	QUITO, ECUADOR
CARACAS, VENEZUELA	44	324	156	243	166	29	49	46	161	53	115	148	39	206	186	31	281	103	333	232	159	24	35	48	44	175	142	52	187	171	339	352	34	255	327	PRAQUE, CZECHOSLOVAKIA
CAPE TOWN, SOUTH AFRICA	39	326	142	237	138	12	43	41	148	44	110	122	34	161	123	26	274	97	317	189	147	48	31	43	38	149	130	45	150	157	326	326	29	249	317	PARIS, FRANCE
CHICAGO, ILL.	38	323	137	235	133	2	41	39	143	37	101	120	32	149	124	24	264	85	312	164	142	66	29	42	35	142	125	42	142	152	321	320	27	249	312	OSLO, NORWAY
CLEVELAND, OHIO	43	320	146	242	149	15	47	44	151	45	105	135	37	173	149	28	270	90	323	194	150	68	34	47	41	158	134	48	162	161	330	335	32	256	319	MONTREAL, CANADA
COLUMBIA, S. C.	47	320	156	247	166	25	51	49	160	52	110	151	41	195	178	32	277	97	333	216	159	62	37	52	46	173	142	54	182	169	339	350	35	263	326	MONTVIDEO, URUGUAY
DALLAS, TEXAS	36	329	135	233	125	1	39	37	142	37	108	111	30	136	106	22	270	94	308	150	140	52	27	40	34	135	124	41	131	149	319	313	25	245	312	MEXICO CITY, MEXICO
DENVER, COLORADO	36	318	133	233	130	355	39	38	138	31	89	119	30	144	124	22	252	71	336	154	137	78	28	40	33	138	121	39	138	147	317	316	25	249	307	MANILA, PHILIPPINE ISLANDS
DES MOINES, IOWA	39	328	143	237	137	15	43	41	149	45	113	120	34	162	116	26	277	100	317	199	147	41	30	43	38	149	130	46	150	158	327	326	29	247	318	MADRID, SPAIN
DETROIT, MICH.	45	321	153	244	160	23	49	47	157	50	110	144	39	190	168	31	276	97	329	212	155	54	35	49	43	168	139	52	176	167	336	345	34	259	324	LONDON, ENGLAND
EL PASO, TEXAS	42	326	155	242	163	30	48	44	160	53	117	142	37	209	185	30	283	105	321	239	158	20	33	47	42	174	141	51	187	170	338	350	33	251	326	LIMA, PERU
HOUSTON, TEXAS	42	322	145	240	146	14	45	43	151	45	107	132	36	171	143	28	271	93	321	193	149	61	33	46	40	156	133	47	159	160	329	333	31	254	319	LA PAZ, BOLIVIA
INDIANAPOLIS, IND.	41	325	146	240	147	17	45	43	152	47	111	130	36	175	141	28	275	98	322	203	150	47	32	45	40	157	134	48	161	161	330	334	31	252	320	JOHANNESBURG, SOUTH AFRICA
JACKSONVILLE, FLA.	31	333	127	228	116	347	34	33	135	28	102	104	26	121	100	18	260	84	300	126	134	58	24	35	28	124	117	34	119	141	312	303	21	241	306	HONOLULU, T. H.
KANSAS CITY, MO.	44	322	153	244	160	23	49	46	157	50	111	144	39	191	168	30	277	98	329	215	156	47	35	49	43	168	139	51	176	167	336	345	33	257	324	HELSINKI, FINLAND
LITTLE ROCK, ARK.	41	328	155	240	163	33	47	43	160	54	118	138	37	223	217	30	285	108	331	254	158	13	33	46	42	176	140	50	194	171	339	351	32	247	327	HAVANA, CUBA
LOS ANGELES, CALIF.	45	319	152	245	158	20	50	47	156	49	107	145	39	185	165	31	273	94	328	205	154	72	36	50	44	166	138	52	173	165	335	343	34	261	323	GUATEMALA CITY, GUATEMALA
LOUISVILLE, KY.	44	317	147	243	152	15	48	46	152	46	103	139	38	175	154	29	270	90	324	193	150	81	35	49	42	160	134	49	164	161	331	337	33	259	319	LA PAZ, BOLIVIA
MIAMI, FLORIDA	43	323	151	242	157	23	48	45	156	50	112	140	38	190	162	30	277	99	328	216	155	43	34	48	42	166	138	50	174	166	335	343	33	255	324	JOHANNESBURG, SOUTH AFRICA
MILWAUKEE, WIS.	40	327	147	239	146	21	45	42	153	48	114	127	35	182	133	28	279	102	322	220	151	35	32	45	40	158	135	48	163	162	331	334	30	249	321	HONOLULU, T. H.
MINNEAPOLIS, MINN.	49	321	164	251	180	34	54	51	167	58	116	166	43	214	204	35	283	104	333	233	165	4	39	54	48	187	150	57	199	177	346	3	38	266	333	HELSINKI, FINLAND
NASHVILLE, TENN.	46	323	161	247	176	33	51	48	165	56	116	160	41	213	203	33	283	104	333	235	163	12	36	51	46	184	147	55	197	175	344	0	36	260	331	HAVANA, CUBA
NEW ORLEANS, LA.	48	322	163	249	178	33	53	50	166	57	115	164	42	212	202	34	282	103	341	232	164	11	38	53	48	185	149	56	197	176	345	2	37	264	332	GUATEMALA CITY, GUATEMALA
NEW YORK, N. Y.	34	330	131	231	121	354	37	35	138	33	105	108	28	129	104	20	265	89	333	138	36	47	304	137	137	130	121	38	126	146	316	308	23	243	309	COPENHAGEN, DENMARK
NORFOLK, VA.	47	321	158	247	170	29	52	49	162	54	113	155	41	203	187	33	279	100	336	224	160	41	37	52	46	178	145	55	188	172	341	354	36	262	329	CARACAS, VENEZUELA
PHILADELPHIA, PA.	43	322	149	242	153	19	47	45	154	48	109	137	37	181	156	29	274	96	325	204	152	55	34	47	42	162	136	49	167	163	332	339	32	256	321	CAPE TOWN, SOUTH AFRICA
PHOENIX, ARIZONA	35	325	132	232	127	355	38	36	139	32	96	114	29	138	116	21	258	79	335	141	136	67	27	39	32	135	121	38	134	146	317	313	24	247	308	CAIRO, EGYPT
PITTSBURGH, PA.	30	333	125	226	115	343	32	31	132	24	95	104	24	121	101	16	252	74	307	149	136	62	22	33	26	123	115	32	119	139	310	301	19	240	303	BUENOS AIRES, ARGENTINA
SALT LAKE CITY, UTAH	31	321	125	227	120	345	33	32	131	23	79	110	25	131	113	17	240	58	300	138	130	75	24	35	27	128	113	32	127	139	309	306	20	243	301	BRUSSELS, BELGIUM
SAN FRANCISCO, CALIF.	47	322	161	248	175	32	52	49	164	56	115	160	41	210	198	33	282	103	339	231	163	20	37	52	47	182	147	55	194	174	343	359	36	262	331	BERN, SWITZERLAND
SEATTLE, WASHINGTON	45	324	159	245	172	32	50	47	163	55	116	154	39	213	200	32	283	105	337	237	161	15	35	49	45	181	145	55	194	173	342	357	34	256	329	BOMBAY, INDIA
WASHINGTON, D. C.																																				
WILMINGTON, N. C.																																				

The above table shows the great circle bearing in degrees, of various metropolitan areas in the United States in relationship to large cities throughout the world. This table should be used from left to right only. To find the great circle bearing between any two of the cities shown, start at the left and follow the horizontal line to the right until you come to the column directly under the name of the city that you desire

To beam a radio signal to. For all practical purposes in the United States, Polaris (the North Star), is due north. To find this star, to calibrate a directional radio beam, look for the first star on a straight line with the two outer stars on the outside edge of the cup of the big dipper. This table was compiled from information furnished by the U. S. Coast and Geodetic Survey. Copyright 1947, Radio Amateur Call Book, Inc.

Federal Communications Commission Examination Points

Examinations for commercial and amateur radio operator licenses are conducted at the following F.C.C. field offices on the days designated by the Engineer in Charge of each office. Specific dates should be obtained from the Engineer in Charge.

Radio District	Address of the Engineer in charge
1—BOSTON 9, MASSACHUSETTS	1600 Custom House
2—NEW YORK 14, NEW YORK	748 Federal Building 641 Washington Street
3—PHILADELPHIA 6, PENNSYLVANIA	1005 New U. S. Customhouse
4—BALTIMORE 2, MARYLAND	415 U. S. Custom House Gay and Water Streets
5—NORFOLK 10, VIRGINIA	402 Federal Building
6—ATLANTA 3, GEORGIA	718 Atlanta National Bldg., 50 Whitehall St., S.W.
6S—SAVANNAH, GEORGIA (P. O. 77)	214 Post Office Building
7—MIAMI 1, FLORIDA	312 Federal Building
7T—TAMPA 6, FLORIDA	Rm. 201-221 N. Howard Ave.
8—NEW ORLEANS 12, LOUISIANA	608 Federal Office Building 600 South Street
8M—MOBILE 10, ALABAMA	419 U. S. Court and Customs House
9—HOUSTON 2, TEXAS	New Federal Office Building 515 Rusk—Room 5636
9B—BEAUMONT, TEXAS (P. O. Box 1527)	301 Post Office Building 300 Willow Street
10—DALLAS 2, TEXAS	401 States General Life Insurance Bldg. 708 Jackson Street
11—LOS ANGELES 14, CALIFORNIA	Mez 50, 849 South Broadway
11SD—SAN DIEGO 1, CALIFORNIA	Fox Theater Building 1245 Seventh Avenue
11SP—SAN PEDRO, CALIFORNIA	356 West Fifth Street
12—SAN FRANCISCO 26, CALIFORNIA	323-A Customhouse 555 Battery Street
13—PORTLAND 5, OREGON	201 U. S. Court House 620 S. W. Main Street
14—SEATTLE 4, WASHINGTON	802 Federal Office Building 1st Avenue and Marion
15—DENVER 2, COLORADO	521 New Customhouse 19th between California & Stout Streets
16—ST. PAUL 2, MINNESOTA	208 Federal Courts Building 6th & Market Streets
17—KANSAS CITY 6, MISSOURI	3100 Federal Office Building 911 Walnut Street
18—CHICAGO 4, ILLINOIS	826 U. S. Courthouse 219 South Clark Street
19—DETROIT 26, MICHIGAN	1029 Federal Building
20—BUFFALO 3, NEW YORK	328 Post Office Building Elliott and Swan Streets
21—HONOLULU 13, HAWAII	502 Federal Bldg. P. O. Box 1021
22—SAN JUAN 13, PUERTO RICO	322-323 Federal Building Post Office Box 2987
23—ANCHORAGE, ALASKA	Room 55, U. S. Post Office Bldg.
23J—JUNEAU, ALASKA	6 Shattuck Building
24—WASHINGTON 25, D. C.	718 Jackson Pl., N. W.

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POSTAL INFORMATION

Below are postal rates for QSL cards, first class letters and air mail letters to United States Possessions and foreign countries. First class rates are the rate for the first ounce. If the rate indicated is 11¢, add 7¢ for each additional ounce or fraction; if the rate indicated is 4¢, add 4¢ for each additional ounce or fraction.

Air mail rates are the rate for each half ounce, except where indicated.

International reply coupons of United States issue may be purchased at United States post offices for 15 cents each. Each coupon is exchangeable at a post office in any country for a stamp or stamps representing the international postage on a single rate surface letter. The column marked "RP" shows the number of international reply coupons required to prepay an air mail letter of the first weight unit from the countries indicated to the United States.

COUNTRY	QSL cards	First class	Air mail	RP	COUNTRY	QSL cards	First class	Air mail	RP	COUNTRY	QSL cards	First class	Air mail	RP
ADEN	\$.07	\$.11	\$.25	5	GABON REPUBLIC	.07	.11	.25	2	PAKISTAN	.07	.11	.25	4
AFGHANISTAN	.07	.11	.25	3	GAMBIA	.07	.11	.25	4	PANAMA	.07	.11	.13	4
ALAND ISLANDS	.07	.11	.15	2	GERMANY	.07	.11	.15	2	PAPUA TERRITORY	.07	.11	.25	3
ALASKA	.03	.04	.07*	2	GHANA	.07	.11	.25	4	PARAGUAY	.07	.11	.15	3
ALBANIA	.07	.11	.15	2	GIBRALTAR	.07	.11	.15	2	PERU	.07	.11	.15	5
ALGERIA	.07	.11	.15	2	GILBERT AND ELLICE ISLANDS	.07	.11	.25	5	PHILIPPINE ISLANDS	.07	.11	.25	3
ANDORRA	.07	.11	.15	2	GOA	.07	.11	.25	3	PITCAIRN ISLAND	.07	.11	.25	
ANGOLA	.07	.11	.25	3	GREECE	.07	.11	.15	2	POLAND	.07	.11	.15	2
ARGENTINA	.07	.11	.15	4	GREENLAND	.07	.11	.15	2	PORTUGAL	.07	.11	.15	2
ASCENSION ISLAND	.07	.11	.15	3	GUADALOUPE	.07	.11	.13	2	PORTUGUESE GUINEA	.07	.11	.25	2
AUSTRALIA	.07	.11	.25	3	GUATEMALA	.07	.11	.13	2					
AUSTRIA	.07	.11	.15	2	GUINEA, REPUBLIC OF	.07	.11	.25	2	REUNION ISLAND	.07	.11	.25	3
AZORES	.07	.11	.15	2	HAITI	.07	.11	.13	5	RHODESIA AND NYASALAND	.07	.11	.25	5
BAHAMAS	.07	.11	.13	1	HONDURAS	.07	.11	.13	3	RIO DE ORO	.07	.11	.25	8
BALEARIC ISLANDS	.07	.11	.15	2	HONG KONG	.07	.11	.25	5	RIO MUNI	.07	.11	.25	8
BARBADOS	.07	.11	.13	2	HUNGARY	.07	.11	.15	3	RUANDA-URUNDI	.07	.11	.25	
BECHUANALAND	.07	.11	.25	5						RUMANIA	.07	.11	.15	3
BELGIUM	.07	.11	.15	2	ICELAND	.07	.11	.15	2	RYUKYU ISLANDS	.07	.11	.25	5
BERMUDA	.07	.11	.13	2	IFNI	.07	.11	.25	8					
BOLIVIA	.07	.11	.15	2	INDIA	.07	.11	.25	4	SAHARA	.07	.11	.25	8
BRAZIL	.07	.11	.15	3	INDONESIA	.07	.11	.25	4	ST. HELENA	.07	.11	.25	3
BRITISH CAMEROONS	.07	.11	.25	4	IRAN	.07	.11	.25	3	ST. PIERRE AND MIQUELON	.07	.11	.13	2
BRITISH GUIANA	.07	.11	.15	2	IRAQ	.07	.11	.25	2	SAMOA (WESTERN)	.07	.11	.25	4
BRITISH HONDURAS	.07	.11	.13	2	IRELAND	.07	.11	.15	3	SANTA CRUZ ISLAND	.07	.11	.25	3
BRITISH NORTH BORNEO	.07	.11	.25	6	ISRAEL	.07	.11	.25	3	SARAWAK	.07	.11	.25	4
BRUNEI	.07	.11	.25	7	ITALY	.07	.11	.15	2	SAUDI ARABIA	.07	.11	.25	
BULGARIA	.07	.11	.15	2	IVORY COAST	.07	.11	.25	2	SENEGAL	.07	.11	.25	2
BURMA	.07	.11	.25	4	JAMAICA	.07	.11	.13	2	SEYCHELLES	.07	.11	.25	3
					JAPAN	.07	.11	.25	2	SIERRA LEONE	.07	.11	.25	4
CAMBODIA	.07	.11	.25	3	JORDAN	.07	.11	.25	3	SOLOMON ISLANDS	.07	.11	.25	6
CAMEROUN	.07	.11	.25	2						SOMALI REPUBLIC	.07	.11	.25	4
CANADA	.03	.04	.07*	2	KENYA & UGANDA	.07	.11	.25	5	SOMALILAND PROTECTORATE	.07	.11	.25	4
CANARY ISLANDS	.07	.11	.15	2	KOREA	.07	.11	.25		SOUTH-WEST AFRICA	.07	.11	.25	5
CAPE VERDE ISLANDS	.07	.11	.25	3	KUWAIT	.07	.11	.25	4	SPAIN	.07	.11	.15	2
CARIBBEAN, BRITISH TERRITORIES IN	.07	.11	.13	2	LABUAN	.07	.11	.25	6	SUDAN	.07	.11	.25	3
CAYMAN ISLANDS	.07	.11	.13	3	LAOS	.07	.11	.25	3	SURINAM	.07	.11	.15	1
CENTRAL AFRICAN REPUB.	.07	.11	.25	2	LATVIA	.07	.11	.25		SWEDEN	.07	.11	.15	
CEYLON	.07	.11	.25	5	LEBANON	.07	.11	.25	3	SWITZERLAND	.07	.11	.15	2
CHAD	.07	.11	.25	2	LEEWARD ISLANDS	.07	.11	.13	3	SYRIA	.07	.11	.15	3
CHILE	.07	.11	.15	4	LIBERIA	.07	.11	.25	5					
CHINA, REPUBLIC OF	.07	.11	.25	3	LIBYA	.07	.11	.15	2	TANGANYIKA	.07	.11	.25	5
CHINA (CONTINENTAL)	.07	.11	.25	3	LITHUANIA	.07	.11	.25		TASMANIA	.07	.11	.25	3
COLOMBIA	.07	.11	.15	3	LUXEMBOURG	.07	.11	.15	2	THAILAND	.07	.11	.25	3
COMORO ISLANDS	.07	.11	.25	3	MACAO	.07	.11	.25	3	TIMOR	.07	.11	.25	4
CONGO (BRAZZAVILLE AND LEOPOLDVILLE)	.07	.11	.25	2	MADERA ISLANDS	.07	.11	.15	2	TOGO	.07	.11	.25	2
CORSICA	.07	.11	.15	2	MALAGASY REP. (MADAGASCAR)	.07	.11	.25	3	TONGA (FRIENDLY) ISLANDS	.07	.11	.25	3
COSTA RICA	.07	.11	.13	2	MALAYA	.07	.11	.25	6	TRINIDAD AND TOBAGO	.07	.11	.13	3
CUBA	.07	.11	.13	4	MALI	.07	.11	.25	2	TRISTAN DE CUNHA	.07	.11	.25	5
CYPRUS	.07	.11	.25	3	MALTA	.07	.11	.15	3	TUNISIA	.07	.11	.15	2
CZECHOSLOVAKIA	.07	.11	.15	3	MARTINIQUE	.07	.11	.13	2	TURKEY	.07	.11	.15	3
					MAURITANIA	.07	.11	.25	2	TURKS ISLAND	.07	.11	.13	2
DAHOMAY	.07	.11	.25	2	MAURITIUS	.07	.11	.25	3					
DENMARK	.07	.11	.15	2	MEXICO	.03	.04	.07*	2	UNION OF SOUTH AFRICA	.07	.11	.25	5
DOMINICAN REPUBLIC	.07	.11	.13	2	MOROCCO	.07	.11	.15	2	U.S.S.R.	.07	.11	.25	
					MOZAMBIQUE	.07	.11	.25	3	UPPER VOLTA	.07	.11	.25	2
ECUADOR	.07	.11	.15	3	NAURA ISLANDS	.07	.11	.25	3	URUGUAY	.07	.11	.15	5
EGYPT	.07	.11	.15	2	NEPAL	.07	.11	.25	7					
EL SALVADOR	.07	.11	.13	2	NETHERLANDS	.07	.11	.15	2	VATICAN CITY	.07	.11	.15	2
ENGLAND	.07	.11	.15	3	NETHERLANDS ANTILLES	.07	.11	.13	1	VENEZUELA	.07	.11	.15	2
ERITREA	.07	.11	.25	3	NETHERLANDS NEW GUINEA	.07	.11	.25	3	VIETNAM	.07	.11	.25	3
ESTONIA	.07	.11	.25		NEW CALEDONIA	.07	.11	.25	2					
ETHIOPIA	.07	.11	.25	3	NEW GUINEA, TERRITORY OF	.07	.11	.25	3	WINDWARD ISLANDS	.07	.11	.13	3
FAEROE ISLANDS	.07	.11	.15	2	NEW HEBRIDES	.07	.11	.25	3					
FALKLAND ISLANDS	.07	.11	.15	3	NEW ZEALAND	.07	.11	.25	3	YEMEN	.07	.11	.25	
FIJI ISLANDS	.07	.11	.25	3	NICARAGUA	.07	.11	.13	4	YUGOSLAVIA	.07	.11	.15	
FINLAND	.07	.11	.15	2	NIGER	.07	.11	.25	2					
FRANCE	.07	.11	.15	2	NIGERIA	.07	.11	.25	4	ZANZIBAR	.07	.11	.25	5
FRENCH GUIANA	.07	.11	.15	2	NORWAY	.07	.11	.15	2					
FRENCH OCEANIA	.07	.11	.25	2										
FRENCH SOMALILAND	.07	.11	.25	2										

*Rate per ounce.

QSL cards and Aerogrammes (air letter sheets) may be sent to any country in the world by air mail for 11¢ (exception, QSL cards to Canada and Mexico, 5¢).

These rates include all revisions up to press time of this issue.

Given below are a number of Q signals whose meanings most often need to be expressed with brevity and clearness in amateur work. (Q abbreviations take the form of questions only when each is sent followed by a question mark.)

- QAV Are you calling me? I am calling_____.
- QRG Will you tell me my exact frequency in kilocycles? Your frequency is_____kc.
- QRH Does my frequency vary? Your frequency varies.
- QRI How is the tone of my transmission? The tone of your transmission is_____ (1. good; 2. variable; 3. bad).
- QRJ Are you receiving me badly? Are my signals weak? I cannot receive you. Your signals are too weak.
- QRK What is the readability of my signals (1 to 5)? The readability of your signals is_____ (1 to 5).
- QRL Are you busy? I am busy or busy with (_____).
- QRM Are you being interfered with? I am interfered with.
- QRN Are you troubled by atmospherics? I am being troubled by atmospherics.
- DRQ Shall I send faster? Send faster (_____ words per min.).
- QRS Shall I send more slowly? Send more slowly (_____w.p.m.).
- QRT Shall I stop sending? Stop sending.
- QRU Have you anything for me? I have nothing for you.
- QRV Are you ready? I am ready.
- QRW Shall I tell_____that you are calling him? Please tell_____that I am calling him.
- QRX When will you call again? I will call you again at_____hours (on_____kc).
- QRZ By whom am I being called? You are being called by_____.
- QSA What is the strength of my signals (1 to 5)? The strength of your signals is_____ (1 to 5).
- QSB Does the strength of my signals vary? The strength of your signals varies.
- QSD Is my keying correct? Are my signals distinct? Your keying is incorrect; your signals are bad.
- QSG Shall I send_____telegrams (or one) at a time? Send_____telegrams at a time.
- QSL Can you give me acknowledgment of receipt? I give you acknowledgment of receipt.
- QSM Shall I repeat the last telegram I sent you? Repeat the last telegram you sent me.
- QSO Can you communicate with_____direct (or through_____)? I can communicate with_____direct (or through_____).
- QSP Will you relay to_____? I will relay to_____.
- QSV Shall I send a series of VVV_____? Send a series of VVV.
- QSW Will you send on_____kcs? etc. I will send on_____kcs, etc.
- QSX Will you listen for_____ (call sign) on_____kcs? I am listening for_____on_____kcs.
- QSY Shall I change to_____kilocycles without changing the type of wave? Change to_____kc. without changing type of wave.
- QSZ Shall I send each word or group twice? Send each word or group twice.
- QTA Shall I cancel nr_____as if it had not been sent? Cancel nr_____as if it had not been sent.
- QTB Do you agree with my number of words? I do not agree with your number of words; I will repeat the first letter of each word and the first figure of each number.
- QTC How many telegrams have you to send? I have_____telegrams for you or for_____.
- QTH What is your position (location)? My location is_____ (by any indication).
- QTR What is the exact time? The time is_____.
- CQ is the general call to any station.
- Special abbreviations adopted by ARRL:
- QST General call preceding a message addressed to all amateurs and ARRL Members. This is in effect "CQ ARRL."
- QRRR Official ARRL "land SOS." A distress call for emergency use only by station in an emergency situation.
- A.R.R.L.-NET "QN" SIGNALS**
- QNA Answer in pre-arranged order.
- QNB Act as relay between_____and_____.
- QNC All Net stations copy.
- QND Net is directed.
- QNE Entire Net please stand by.
- QNF Net is free.
- QNG Take over as Net Control Station.
- QNH Your Net frequency is high.
- QNI Report into Net or I report into Net.
- QNJ Can you copy me (or_____)?
- QNK Transmit message(s) (for_____) to_____.
- QNL Your Net frequency is low.
- QNM You are QRMing_____; please stand by.
- QNN Net Control Station is_____ (on_____kc.).
- QNO Going out of Net.
- QNP Unable to copy you (or_____)?
- QNQ Send you information "QNC" or May I transmit message "QNC?"
- QNR Answer_____and relay (or receive) traffic.
- QNS Following stations in Net_____.
- QNT Leaving Net temporarily (or for_____ minutes) or I request to leave Net temporarily, etc.
- QNU _____has traffic for you; await instructions (or QNU QNR).
- QNV Please request_____to QSV.
- QNW Through whom shall I relay message for_____?
- QNX You are excused from Net or I request to be excused.
- QNY Please shift to another frequency (or to _____kc.) to prevent QRMing other Net stations (or to clear traffic with_____).
- QNZ Zero beat your signal with that of the Net Control Station.



AMATEUR

Fundamental, PR Type Z-2

Frequency Ranges in Kcs.: 3,500 to 4,000 (80M); 7,000 to 7,425 (40M); 8,000 to 8,222 (2M); 8,334 to 9,000 (6M).

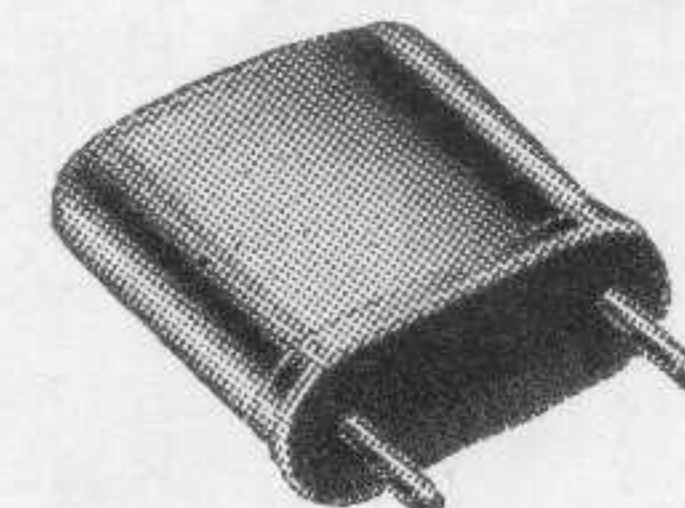
Rugged. Low drift, fundamental oscillators. High activity and power output. Stands up under maximum crystal currents. Stable, long-lasting; ± 500 cycles. \$2.95 Net

(All Z-2 Crystals calibrated with a load of 32 mmfd.)

Third Overtone, PR Type Z-9A

Hermetically sealed; calibrated 24,000 to 24,666 and 25,000 to 27,000 Kcs., ± 3 Kcs.; .050" pins. \$3.95 Net

6 Meters, PR Type Z-9A



Fifth overtone; for operating directly in 6-meter band; hermetically sealed; calibrated 50 to 54 Mc., ± 15 Kcs.; .050" pins. \$4.95 Net

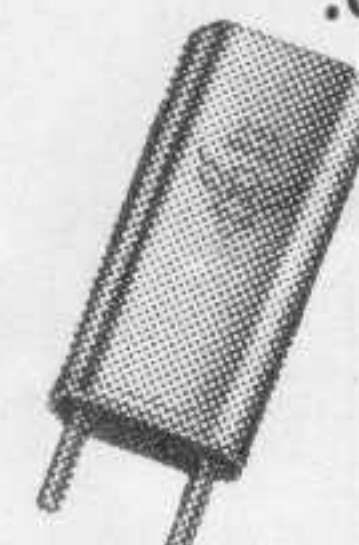
SPECIAL TYPES

Commercial Crystals available from 100 Kc. to 70 Mc. Prices on request.

Type Z-1, Aircraft Z-1, MARS & CAP

3023.5 Kcs., .005% \$3.45 Net

Official assigned transmitter frequencies in the range. Calibrated to .005%. 1600 to 10000 Kc. \$3.45 Net



Type Z-6A, Frequency Standard

To determine band-edge. To keep the VFO and receiver properly calibrated. 100 Kc. \$6.95 Net

Type 2XP

Suitable for converters, experimental, etc. Same holder dimensions as Type Z-2.

1600 to 12000 Kc. (Fund.)

± 5 Kcs. \$3.45 Net

12001 to 25000 Kc. (3d Mode)

± 10 Kcs. \$4.45 Net



Type Z-1, TV Marker Crystals

Channels 2 through 13 \$6.45 Net

4.5 Mc. Inter-carrier, .01% \$2.95 Net

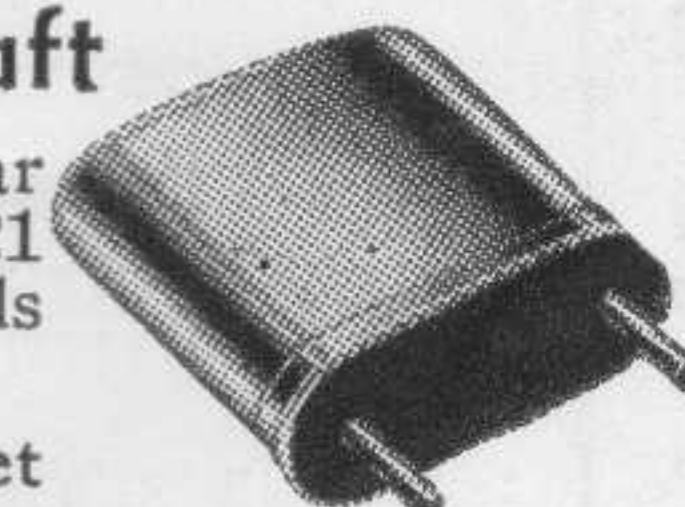
5.0 Mc. Sig. Generator, .01% \$2.95 Net

10.7 Mc. FM, IF, .01% \$2.95 Net

VHF Type Z-9R, Aircraft

For Lear, Narco and similar equipment operating in the 121 Mc. region, requiring crystals in 30 Mc. range.

Each. \$4.95 Net



TYPE Z-9R CITIZENS BAND CLASS "D"

FCC assigned frequencies in megacycles: 26.965, 26.975, 26.985, 27.005, 27.015, 27.025, 27.035, 27.055, 27.065, 27.075, 27.085, 27.105, 27.115, 27.125, 27.135, 27.155, 27.165, 27.175, 27.185, 27.205, 27.215, 27.225, 27.255; calibrated to .005%. \$2.95 Net

(Be sure to specify manufacturer and model number of equipment)

TYPE Z-9R RECEIVER CRYSTALS FOR CITIZENS BAND CLASS "D"—Specify I.F. frequency, also whether receiver oscillator is above or below transmitter frequency. Calibrated to .005%. \$2.95 Net

(Be sure to specify manufacturer and model number of equipment)

TYPE Z-9R RADIO CONTROL CLASS "C"

FCC assigned frequencies in megacycles: 26.995, 27.045, 27.095, 27.145, 27.195, 27.255; calibrated to .005%. \$2.95 Net

(Be sure to specify manufacturer and model number of equipment)

ALL PR CRYSTALS ARE UNCONDITIONALLY GUARANTEED ORDER FROM YOUR JOBBER

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2800 W. BROADWAY
COUNCIL BLUFFS, IOWA

AIR-LINE DISTANCES IN MILES BETWEEN CITIES IN THE UNITED STATES

ATLANTA, GEORGIA	140	1244	937	697	353	1229	587	554	194	721	1212	739	596	1291	1697	701	426	285	676	456	1936	319	604	668	907	214	424	748	505	666	1592	521	467	1583	2139	2182	543	371	
BIRMINGHAM, ALA.	140		1174	1052	776	442	1119	578	618	334	581	1095	670	641	1152	1602	567	433	374	579	375	1802	331	665	659	862	182	312	864	638	783	1456	608	400	1466	2013	2082	661	512
BISMARCK, N. D.	1244	1174		1489	1106	1133	440	734	1014	1359	990	531	506	926	1081	534	1211	881	1529	618	943	1267	965	1838	682	384	1030	1297	1396	1430	1367	1095	1127	779	694	1265	1013	1318	1474
BOSTON, MASS.	937	1052	1489		400	622	1735	851	551	791	1551	1769	1159	613	2072	2024	1605	807	1017	1251	1259	2596	826	1255	857	1123	943	1359	188	471	271	2300	483	1038	2099	2699	2493	393	673
BUFFALO, NEW YORK	697	776	1106	400		344	1335	454	173	623	1198	1370	760	216	1692	1640	1286	435	879	861	913	2198	483	1181	458	731	627	1086	292	947	279	1906	178	662	1699	2300	2117	292	598
CHARLESTON, W. VA.	353	442	1133	622	344		1246	400	217	302	935	1256	673	284	1475	1642	984	262	553	701	642	2054	225	870	461	755	322	754	440	311	365	1733	168	465	1616	2205	2132	253	350
CHEYENNE, WYOMING.	1229	1119	440	1735	1335	1246		891	1199	1390	726	96	583	1125	653	521	947	986	1493	560	813	882	1033	1763	878	642	1032	1131	1604	1556	1556	663	1298	795	371	967	973	1477	1540
CHICAGO, ILLINOIS	587	578	734	851	454	400	891		308	652	803	920	309	238	1252	1248	940	165	863	414	552	1745	269	1188	81	355	397	833	713	699	666	1453	410	262	1260	1858	1737	597	745
CLEVELAND, OHIO	554	618	1014	551	173	217	1199	308		518	1025	1227	617	90	1525	1541	1114	263	770	700	740	2049	311	1087	335	630	459	924	405	432	360	1749	115	492	1568	2166	2026	306	541
COLUMBIA, S. C.	194	334	1359	791	623	302	1390	652	518		914	1380	863	585	1484	1837	891	489	256	830	644	2123	395	569	726	998	358	599	605	332	523	1781	448	603	1751	2317	2326	405	178
DALLAS, TEXAS	721	581	990	1551	1198	935	726	803	1025	914		663	632	999	572	1247	225	763	908	451	293	1240	726	1111	857	862	617	443	1374	1196	1299	887	1070	547	999	1483	1681	1185	1091
DENVER, COLORADO	1212	1095	531	1769	1370	1256	96	920	1227	1380	663		610	1156	557	591	879	1000	1467	558	780	831	1038	1726	914	700	1023	1082	1631	1566	1579	586	1320	796	371	949	1021	1494	1537
DES MOINES, IOWA	739	670	506	1159	760	673	583	309	617	863	632	610		546	983	977	821	411	1023	180	478	1438	476	1333	309	235	525	827	1022	983	973	1155	715	273	953	1550	1467	896	993
DETROIT, MICHIGAN	596	641	926	613	216	284	1125	238	90	585	999	1156	546		1479	1455	1105	240	831	645	723	1983	316	1152	252	543	470	939	482	522	443	1690	205	455	1492	2091	1938	396	623
EL PASO, TEXAS	1291	1152	1081	2072	1692	1475	653	1252	1525	1484	572	557	983	1479		1065	676	1264	1473	839	847	701	1254	1643	1279	1157	1169	983	1905	1755	1836	346	1590	1034	689	995	1376	1728	1661
HELENA, MONTANA	1697	1602	534	2024	1640	1642	521	1248	1541	1837	1247	591	977	1455	1065		1467	1382	1973	1023	1315	924	1453	2260	1206	912	1488	1646	1929	1947	1897	907	1652	1236	403	807	490	1842	1969
HOUSTON, TEXAS	701	567	1211	1605	1286	984	947	940	1114	891	225	879	821	1105	676	1467		865	821	644	388	1374	803	968	1005	1056	665	318	1420	1204	1341	1017	1137	679	1200	1645	1891	1220	1066
INDIANAPOLIS, IND.	426	433	881	807	435	262	986	165	263	489	763	1000	411	240	1264	1382	865		699	453	483	1809	107	1024	243	511	251	712	646	573	585	1499	330	231	1356	1949	1872	494	593
JACKSONVILLE, FLA.	285	374	1529	1017	879	553	1493	863	770	256	908	1467	1023	831	1473	1973	821	699		950	690	2147	594	326	942	1191	499	504	838	546	758	1794	703	751	1837	2374	2455	647	346
KANSAS CITY, MISSOURI	676	579	618	1251	861	701	560	414	700	830	451	558	180	645	839	1023	644	453	950		325	1356	480	1241	443	413	473	680	1097	1009	1038	1049	781	238	925	1506	1506	945	981
LITTLE ROCK, ARK.	456	325	943	1259	913	642	813	552	740	644	293	780	478	723	847	1315	388	483	690	325		1480	435	949	618	708	325	355	1081	909	1007	1137	779	291	1148	1688	1785	892	818
LOS ANGELES, CALIF.	1936	1802	1267	2596	2198	2054	882	1745	2049	2123	1240	831	1438	1983	701	924	1374	1809	2147	1356	1480		1829	2339	1744	1524	1780	1673	2451	2355	2394	357	2136	1589	579	347	959	2300	2294
LOUISVILLE, KY.	319	331	965	826	483	225	1033	269	311	395	726	1038	476	316	1254	1453	803	107	594	480	435	1829		919	349	605	154	623	652	529	582	1508	344	242	1402	1986	1943	476	516
MIAMI, FLORIDA	604	665	1838	1255	1181	870	1763	1188	1087	569	1111	1726	1333	1152	1643	2260	968	1024	326	1241	949	2339	919		1267	1511	815	669	1092	797	1019	1982	1010	1061	2089	2594	2734	923	598
MILWAUKEE, WIS.	668	659	682	857	458	461	878	81	335	726	357	914	309	252	1279	1206	1005	243	942	443	618	1744	349	1267		299	478	910	733	749	694	1464	446	327	1242	1842	1692	637	810
MINNEAPOLIS, MINN.	907	862	384	1123	731	755	642	355	630	998	862	700	235	543	1157	912	1056	511	1191	413	708	1524	605	1511	299		697	1051	1018	1047	985	1280	743	466	987	1584	1395	934	1100
NASHVILLE, TENN.	214	182	1030	943	627	322	1032	397	459	358	617	1023	525	470	1169	1488	665	251	499	473	325	1780	154	815	478	697		469	761	586	685	1446	472	254	1393	1963	1975	569	517
NEW ORLEANS, LA.	424	312	1297	1359	1086	754	1131	833	924	599	443	1082	827	939	983	1646	318	712	504	680	355	1673	623	669	910	1051	469		1171	926	1089	1316	919	598	1434	1926	2101	966	769
NEW YORK, N. Y.	748	864	1396	188	292	440	1604	713	405	605	1374	1631	1022	482	1905	1929	1420	646	838	1097	1081	2451	652	1092	733	1018	761	1171		296	83	2145	317	875	1972	2571	2408	205	499
NORFOLK, VA.	505	638	1430	471	438	311	1556	699	432	332	1196	1566	983	522	1755	1947	1204	573	546	1009	909	2355	529	797	749	1047	586	926	296		222	2028	318	771	1927	2515	2436	146	203
PHILADELPHIA, PA.	666	783	1367	271	279	365	1556	666	360	523	1299	1579	973	443	1836	1897	1341	585	758	1038	1007	2394	582	1019	694	985	685	1089	83	222		2083	259	811	1925	2523	2380	123	423
PHOENIX, ARIZONA	1592	1456	1095	2300	1906	1733	663	1453	1749	1781	887	586	1155	1690	346	907	1017	1499	1794	1049	1137	357	1508	1982	1464	1280	1446	1316	2145	2028	2083		1828	1272	504	653	1114	1983	1954
PITTSBURGH, PA.	521	608	1127	483	178	168	1298	410	115	448	1070	1320	715	205	1590	1652	1137	330	703	781	779	2136	344	1010	446	743	472	919	317	318	259	1828		559	1668	2264	2138	192	442
ST. LOUIS, MO.	467	400	779	1038	662	465	795	262	492	603	547	796	273	455	1034	1236	679	231	751	238	291	1589	242	1061	327	466	254	598	875	771	811	1272	559		1162	1744	1724	712	746
SALT LAKE CITY, UTAH	1583	1466	694	2099	1699	1616	371	1260	1568	1751	999	371	953	1492	689	403	1200	1356	1837	925	1148	579	1402	2089	1242	987	1393	1434	1972	1927	1925	504	1668	1162		600	701	1848	1906
SAN FRANCISCO, CALIF.	2139	2013	1265	2699	2300	2205	967	1858	2166	2317	1483	949	1550	2091	995	807	1645	1949	2374	1506	1688	347	1986	2594	1842	1584	1963	1926	2571	2515	2523	653	2264	1744		600	701	1848	1906
SEATTLE, WASH.	2182	2082	1013</																																				

ARRL Phonetic Alphabet

A	ADAM
B	BAKER
C	CHARLIE
D	DAVID
E	EDWARD
F	FRANK
G	GEORGE
H	HENRY
I	IDA
J	JOHN
K	KING
L	LEWIS
M	MARY
N	NANCY
O	OTTO
P	PETER
Q	QUEEN
R	ROBERT
S	SUSAN
T	THOMAS
U	UNION
V	VICTOR
W	WILLIAM
X	X-RAY
Y	YOUNG
Z	ZEBRA

ON GOOD PHONE OPERATING

1. **Listen much . . . with care.** Avoid distractions in your operating room. Tune the band well after each call.
2. **Time your calls; monitor your own frequency.** Call only when a station is free.
3. **Make short calls, with breaks to listen.** Speak clearly, at a steady, modest rate. Three short calls are better than one long one.
4. **Use push-to-talk technique . . . speak near the mike.** Watch the modulation indicator. Keep local background noise at a minimum.
5. **Make notes.** Avoid missing points for comment. Jot down topics to avoid repeats.
6. **Talk in connected thoughts and phrases.** Notes will help avoid mixing up subjects. Push-to-talk technique will keep brother amateurs from calling you a monologist.
7. **Speak naturally.** QSOs need not be cut and dried. Make them interesting. Avoid exhibitionism. Use proper operating form to promote efficiency in communication and add respect and prestige for your station.

Use of this standard list is recommended by ARRL. Haphazard selection of words often results in confusion. A degree of uniformity in use of phonetic words reflects favorably on your individual operating, and on the whole amateur service.

ARRL Communications Department.

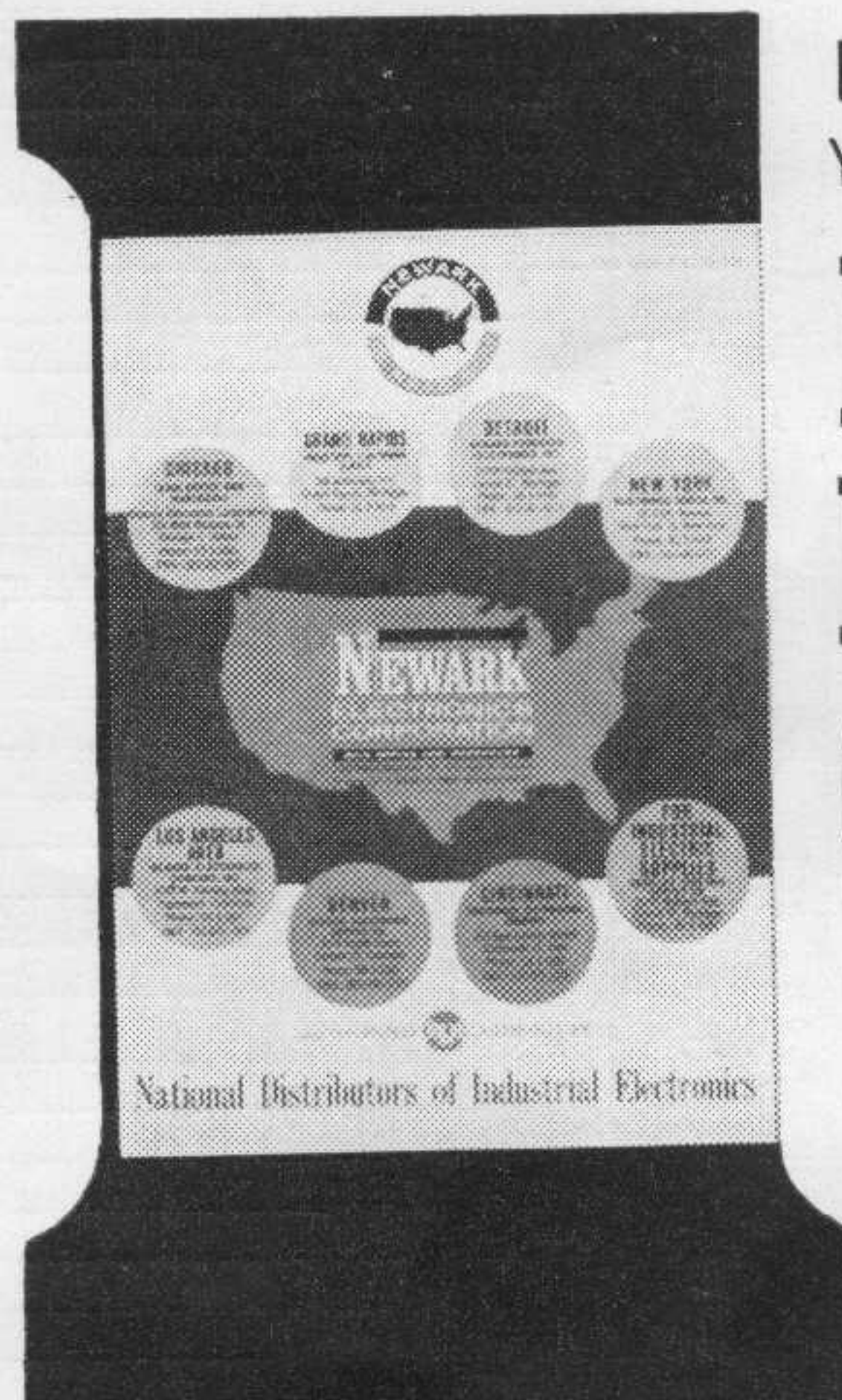


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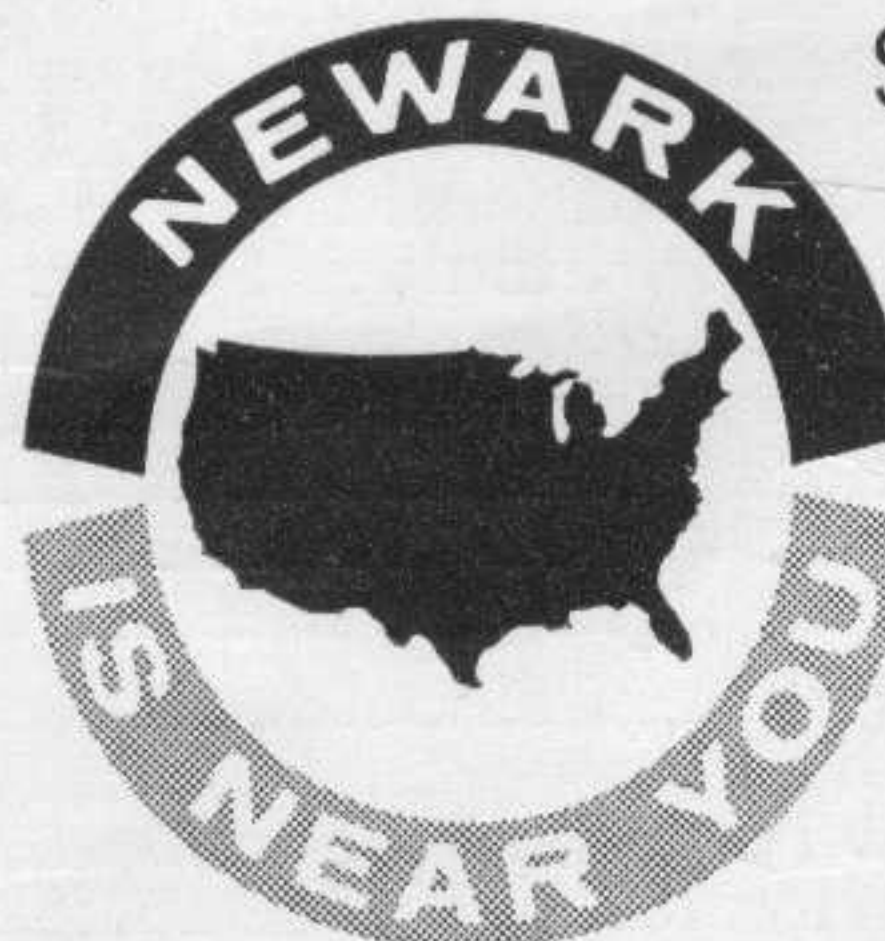
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STANDARD TIME THROUGHOUT THE WORLD

Compiled by the National Bureau of Standards

Standard time for the world, like longitude, is counted from Greenwich, England, as the prime meridian. Places to the east of Greenwich have faster time than Greenwich, while places to the west have slower time. The world is divided into time zones of approximately 15° for every hour. Since Greenwich is in the 0 zone, the number of any zone, if added or subtracted to the time in Greenwich, will give the corresponding time in that particular zone.

Not all countries follow the International Time Zone System, but some use the time of some principal city as a standard and others have no standard time. The different time zones of the world are numbered east and west of Greenwich. The zone number when added or subtracted, as shown in the following table, from the time of the zone gives the corresponding Greenwich time. Thus zones to the east have faster time than Greenwich and are indicated as minus (—), while those to the west have slower time and are indicated as plus (+).

Country	Zone Number
Admiralty Islands	—10
Afghanistan	—4
Alaska	
Juneau, Ketchikan, Sitka	+8
Cordova	+9
Central part	+10
West coast, Aleutian Islands	+11
Albania†	—1
Algeria	—0
Amirante Islands	—4
Amsterdam Island	—5
Andaman Islands	—6½
Andorra†	0
Anglo-Egyptian Sudan	—2
Angola	—1
Anguilla Island	+4
Antigua Island	+4
Arabia†	
Aden†	—3
Argentina†	+4
Aru Islands	—9
Ascension Island	0
Austral (Tubuai) Islands	+10
Australia	
Western Australia	—8
Northern Territory, South Australia†	—9½
New South Wales,† Queensland, Victoria*	—10
Austria†	—1
Azores Islands†	0
Bahama Islands	+5
Bahrain Islands	—4
Balearic Islands†	0
Barbados Island†	+4
Bechuanaland	—2
Belgium†	0
Bermuda Islands†	+4
Bhutan	—5½
Bolivia	+4
Borneo†	—8
Brazil	
Fernando Noronha Island, Isle de	
Trinidad	+2
Bahia, Ceara, Esperito Santo, Goyaz, Miranhao, Minas-Geraes, Para, Parana, Pernambuco, Piahy, Rio de Janeiro, Rio Grande do Norte, Rio Grande do Sul, Santa Catherina, Sao Paulo	+3
Amazonas, Matto Grosso	+4
Acre Territory	+5
British Honduras†	+6
Bulgaria	—3
Burma	—6½
Cameroons	—1
Canada	
Belle Isle, Labrador,† Newfoundland†	+3½
Anticosti Island, Cape Breton Island, Magdalen Island, New Brunswick,† Nova Scotia,† Prince Edward Island, Quebec (east of 68° W.),† Sable Island	+4
Melville Peninsula (east), Ontario (east of 90° W.),† Quebec (west of 68 W.),† Southampton Island	+5
Manitoba, Ontario (west of 90° W.), Melville Peninsula (west), Northwest Territories (east)	+6
Alberta, Saskatchewan, Northwest Territories (middle)	+7
British Columbia, Northwest Territories (west)	+8
Yukon	+9
Arctic Islands†	+1
Canary Islands†	+2
Cape Verde Islands	+2
Caroline Islands	—10
Ceylon Island†	—5½
Chagos Archipelago†	—5
Chile	+4
China	
Western part	—5
Mid-Western part	—6
Mid-Eastern part, Hainan, Palekoi, Hongkong, Macao	—7
Eastern part	—8
Christmas Island	—7
Colombia	+5
Congo	
Western part	—1
Eastern part	—2
Cook Islands	
Costa Rica	+6
Cuba†	+5
Curacao Island	+4½
Cyprus Island	—2
Czechoslovakia	—1
Dahomey	0
Denmark†	—1
Dodecanese Islands	—2
Dominican Republic†	+5

Country	Zone Number
Ecuador	+5
Egypt†	—2
Eire†	0
Ellice Islands	—12
El Salvador	+6
England†	0
Equatorial Africa, French	—1
Eritrea	—3
Ethiopia	—3
Falkland Islands†	+4
Fanning Island	+11
Faroe Islands	0
Finland†	—2
France†	0
Gambia	0
Germany†	—1
Gibraltar†	0
Gilbert Islands	—12
Gold Coast†	0
Greece†	—2
Scoresby Sound	+2
Angmagssalik, Disko Island, Western Coast	+3
Interior†	
Grenada Island	+4
Guadeloupe Island	+4
Guam Island	—10
Guatemala	+6
Guiana, British, Dutch, French	+3½
Guinea	
French, Spanish	0
Portuguese	+1
Haiti	+5
Hawaiian Islands	+10
Hebrides Islands	0
Honduras	+6
Hungary†	—1
Iceland†	+1
India†	—5½
Indo-China†	—8
Iran	—3½
Iraq†	—3
Ireland, Northern†	0
Isle of Man	0
Isle of Pines	+5
Italy†	—1
Jamaica	+5
Japan†	—9
Java	—8
Kenya	—3
Kodiak Island	+10
Korea	—8½
Labrador	+3½
Laccadive Islands	—5½
Latvia*	—2
Liberia	
Libya*	—1
Liechtenstein	—1
Lithuania*	—2
Lord Howe Island	—10½
Luxembourg*	0
Madagascar Island	—3
Madeira Islands	0
Malay States	—7½
Maldiv Islands	
Malta Island	—1
Marshall Islands	—12
Martinique Island	+4
Mauritius Island	+4
Mexico*	
Aguascalientes, Campeche, Chiapas, Chihuahua, Coahuila, Durango, Guanajuato, Guerrero, Jalisco, Mexico, Michoacan, Morelos, Nuevo Leon, Oaxaca, Puebla, Queretaro, Quintana Roo, San Luis Potosi, Tabasco, Tamaulipas, Tlaxcala, Yucatan	+6
Baja California (south of 28° N.), Nayarit, Sinaloa, Sonora	+7
Baja California (north of 28° N.)	+8
Midway Island	+11
Monaco§	0
Morocco§	0
Mozambique	—2
Nepal	—5½
Netherlands	0
New Caledonia Islands	—11
Newfoundland§	+3½
New Guinea	
Western part (Dutch)	—9
Eastern part (British)	—10
New Hebrides Islands	—11
New Zealand§	—12
Nicaragua	+6
Nigeria	—1
Norfolk Island	—11½
Northern Ireland§	0

Country	Zone Number
Norway§	—1
Nyasaland	—2
Orkney Islands	0
Pakistan	—5½
Palestine†	—2
Panama	+5
Paraguay	+4
Peru†	+5
Philippine Islands	—8
Poland	
Western part	—1
Eastern part	—2
Portugal†	0
Puerto Rico	+4
Reunion Island	—4
Rhodesia	
Northern	—2
Southern	—2
Rio de Oro	+1
Rumania	—2
Samoa Islands	+11
San Marino†	—1
Sarawak	—8
Saudi Arabia†	
Scotland	0
Senegal†	0
Seychelles Islands	—4
Siam	—7
Sierra Leone	0
Society Islands	+10
Solomon Islands	—11
Somaliland	—3
Southwest Africa	—2
Spain†	0
Spitzbergen†	
St. Croix Island	+4
St. Helena Island	0
St. Lawrence Island	+11
St. Lucia Island	+4
St. Matthew Island	+11
St. Miguel Island	0
St. Pierre Island†	+4
St. Thomas Island	+4
St. Vincent Island	+4
Sudan (French West Africa)	
Eastern part	0
Western part	+1
Sumatra Island	—7
Sweden	—1
Switzerland†	—1
Syria†	—2
Tanganyika	—3
Tangier	0
Tasmania Island†	—10
Timor Island	—9
Tobago Island	+4
Togoland	0
Tonga (Friendly) Islands	
Transjordan*	
Trinidad Island	+4
Tunisia	—1
Turkey†	—2
Turks Island	+5
Uganda	—3
Union of South Africa†	—2
United States of America†	
Eastern	+5
Central	+6
Mountain	+7
Pacific	+8
Alaska	+10
Uruguay†	+3
U. S. S. R.†	
Estonia, Karelo-Finnish, Latvia, Lithuania, Moldavia, Russia, Ukraine, White Russia	—2
Armenia, Azerbaijan, Georgia	—3
Kazak, Tadzhik, Turkmen, Uzbek	—4
Kirghiz, W. Siberian Region	—5
Approximately 82½° to 97½°	—6
Buryat-Mongol, E. Siberian Region	—7
Approximately 112½° to 127½°	—8
Kuril Islands, Sakhalin	—9
Approximately 142½° to 157½°	—10
Approximately 157½° to 172½°	—11
Approximately 172½° to coast	—12
Vatican City	—1
Venezuela	+4½
Virgin Islands	+4
Wake Island	—12
Wales	0
Wrangell Island	—12
Yap Island	—10
Yugoslavia	—1
Zanzibar Island	—3

*See time Zone Chart of the World No. 5192, published by Hydrographic Office, Navy.

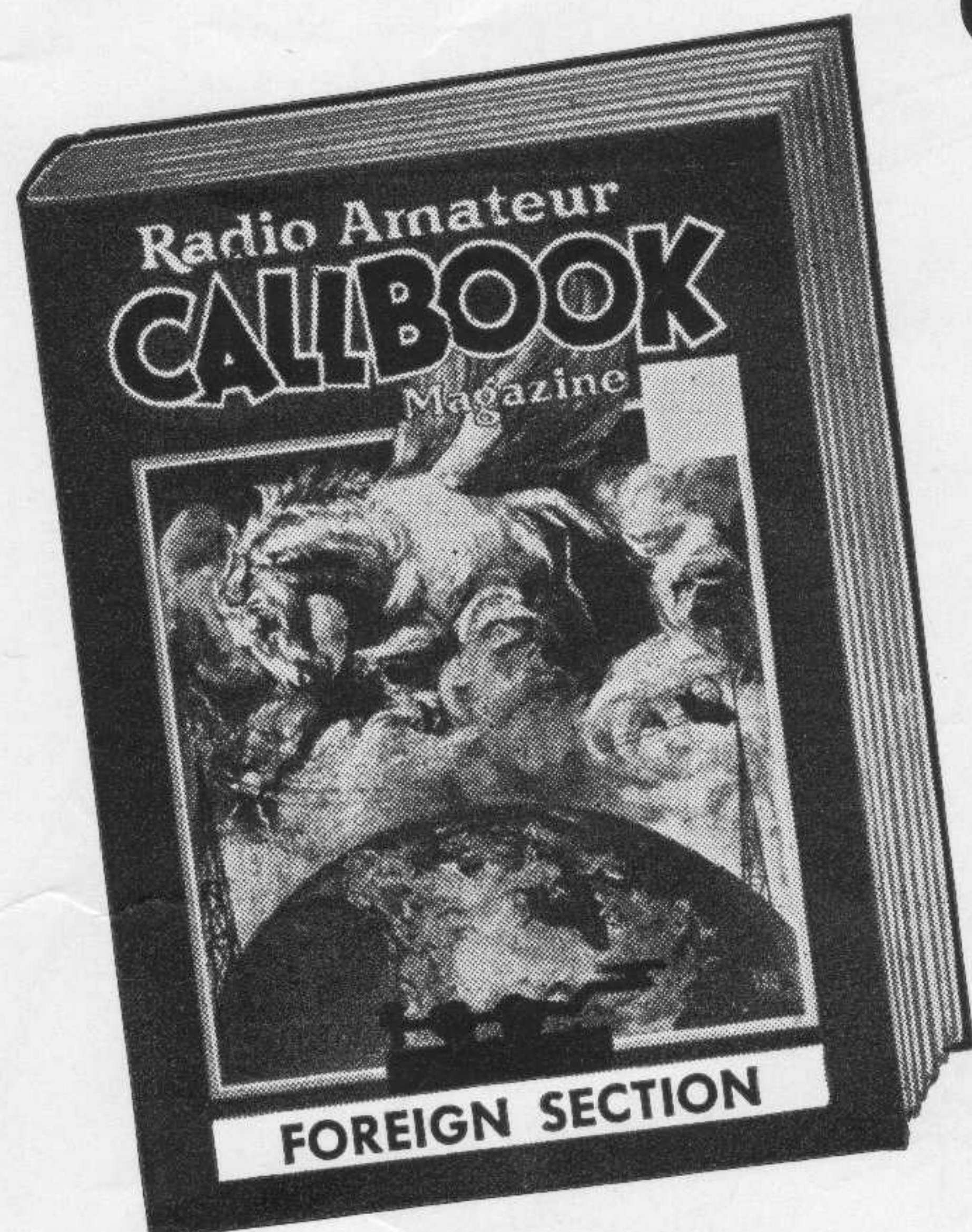
†Fast time in use during part of the year.

‡No definite standard time used.

§1 hour or 2 hours fast, fixed annually.

DX EDITION

OF THE



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FALL issue on sale after September 1st.
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"Now you can have more watts per dollar spent with the new WRL Meteor SB-175. It's a real break through for both the novice and advanced operator to enjoy all modes, 175 Watts CW, 100 Watts AM, 140 Watts (PEP) Double Sideband, and a simple 'flick of the switch' for 75 Watt Novice power. I am very happy to offer you this factory Wired transmitter with a FULL YEAR warranty at such a low price." (Leo I. Meyerson WØGFQ.)

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. . . Compact . . . 5" high . . .
11-7/8" wide by 8" deep. Weight
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MA and 6/12 V Filaments.

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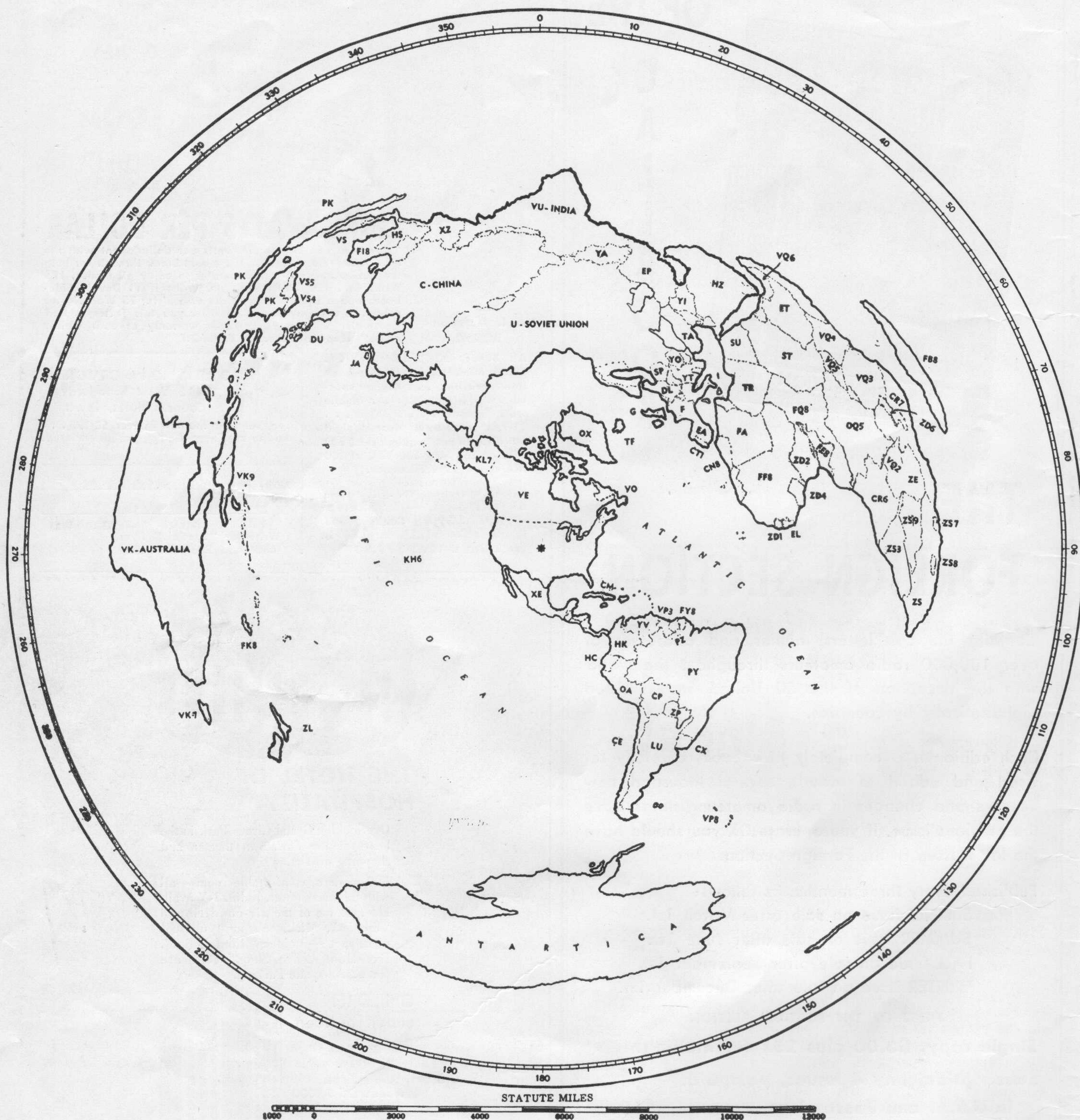
The New
Hotel

Wolverine

55 E. ELIZABETH ST.



Great Circle Chart of the World Centered on THE UNITED STATES



To find the great circle bearing to any point in the world from the center of the United States, draw a straight line from the star and note the reading in degrees on the outer scale. The bar scale at the bottom of the chart can be used to determine the distance in statute miles. For bearings to the nearest degree reference is invited to the table on the opposite Page. The outlines of this chart were prepared by the U.S. Coast and Geodetic Survey.

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Looking for QSL Cards?

Turn to the last page in this issue for complete information on "Where to Buy Your QSL Cards."

This is a special feature in the CALLBOOK, listing sources for QSL cards and similar items of interest to radio amateurs.

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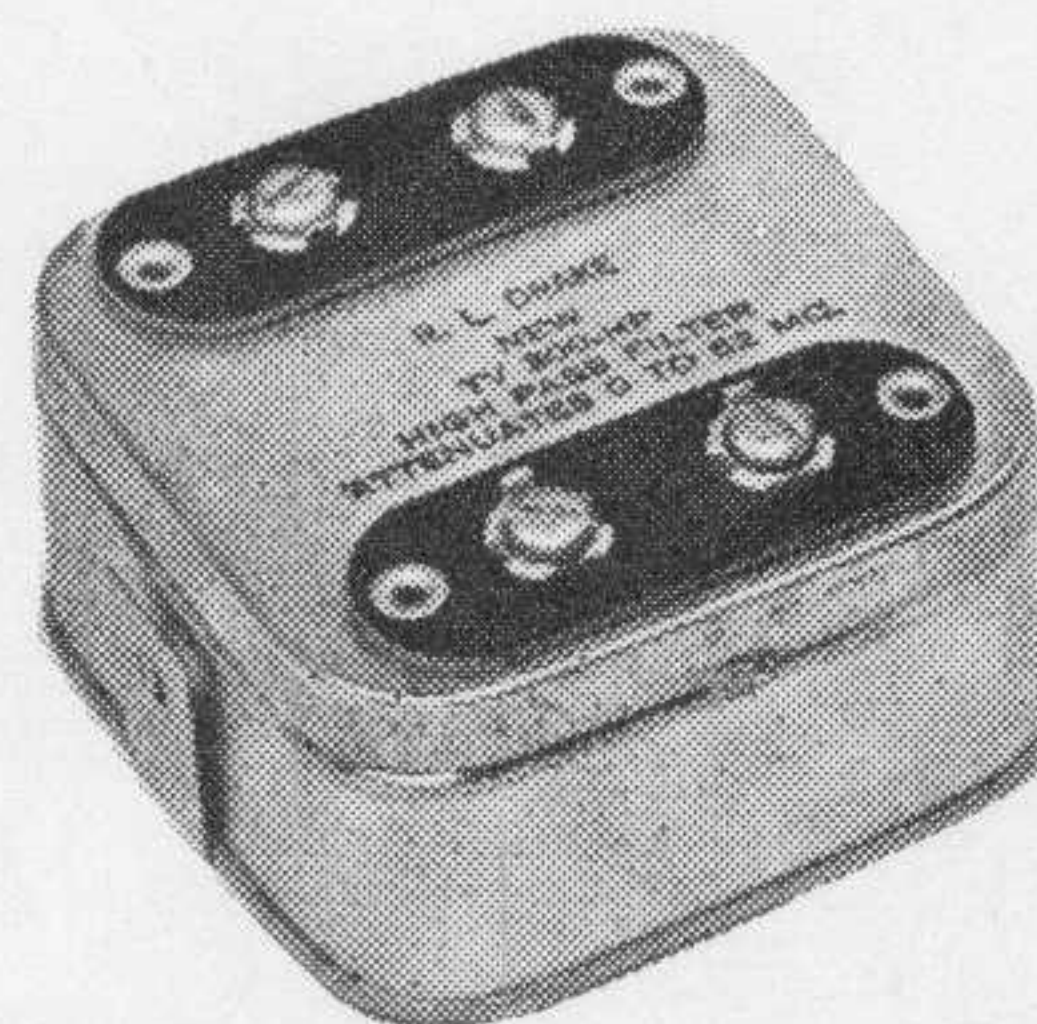
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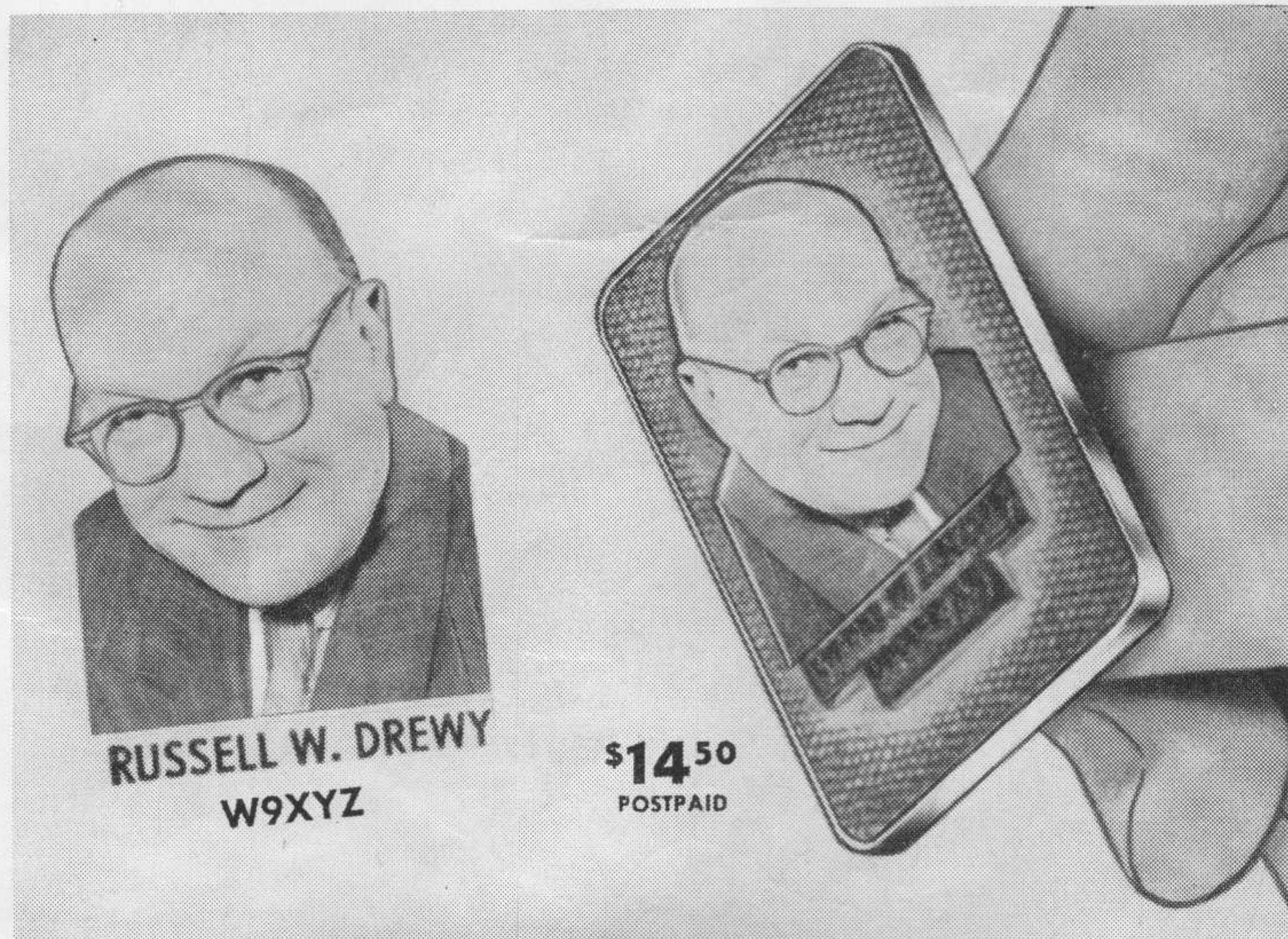
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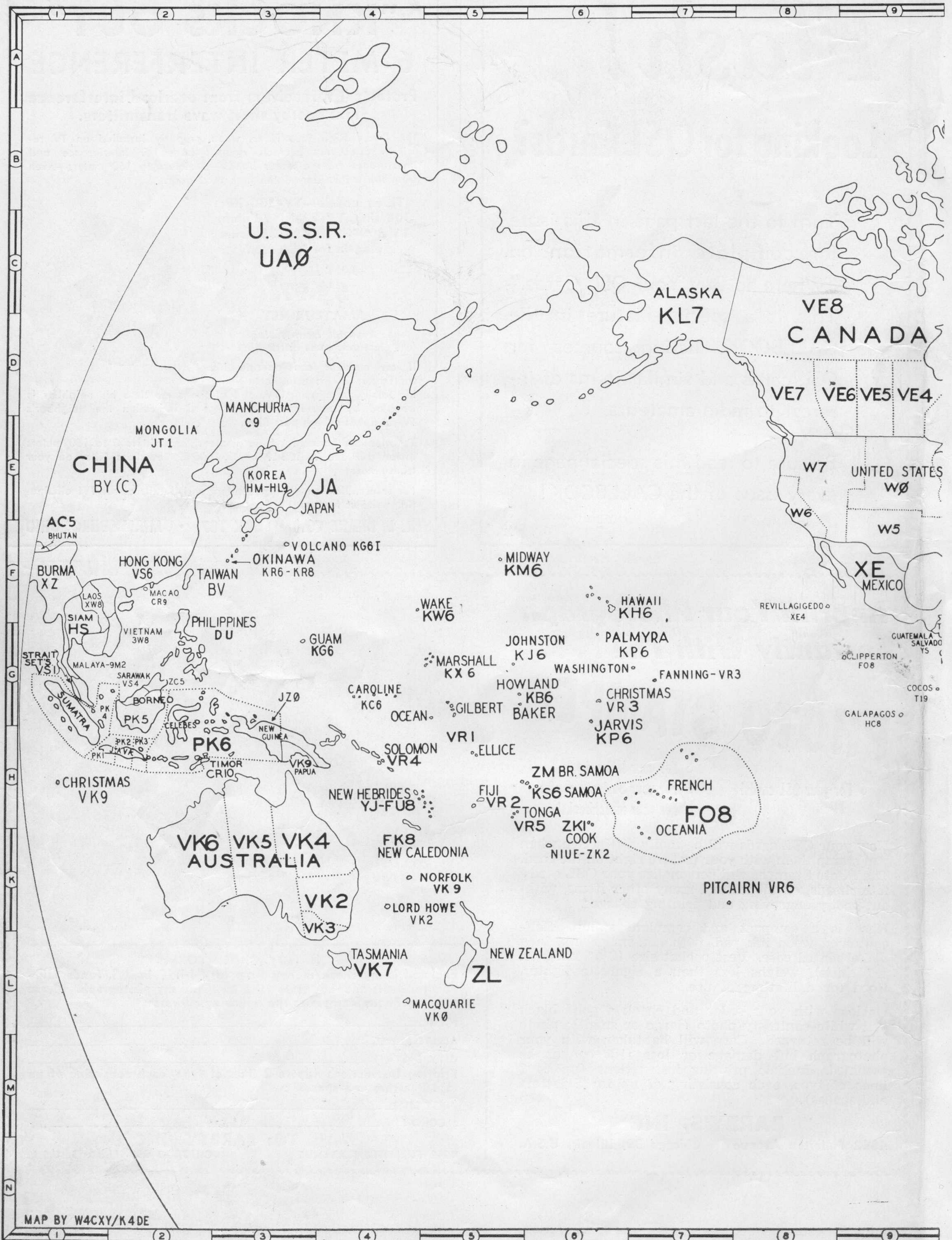
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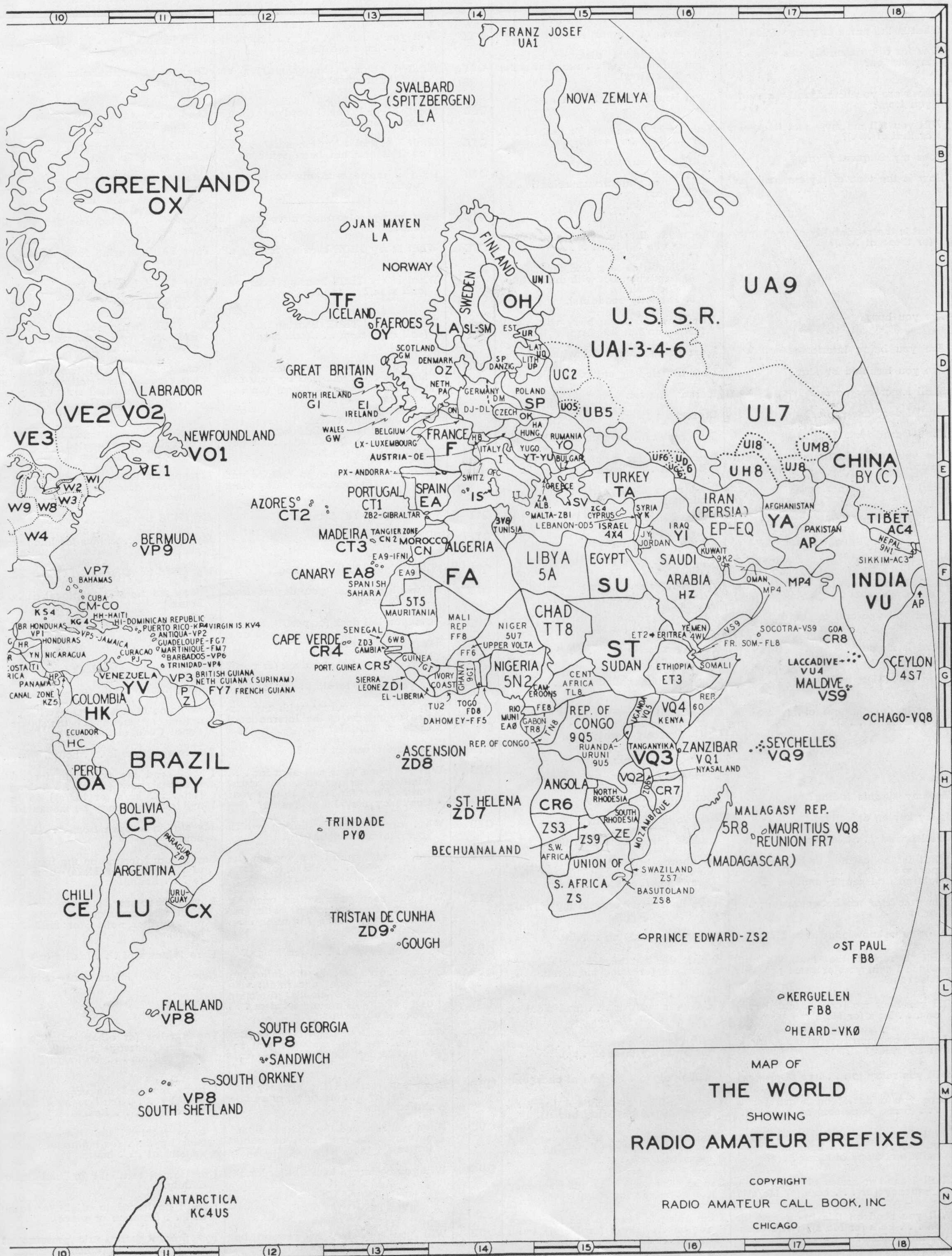
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RADIO AMATEUR PREFIXES



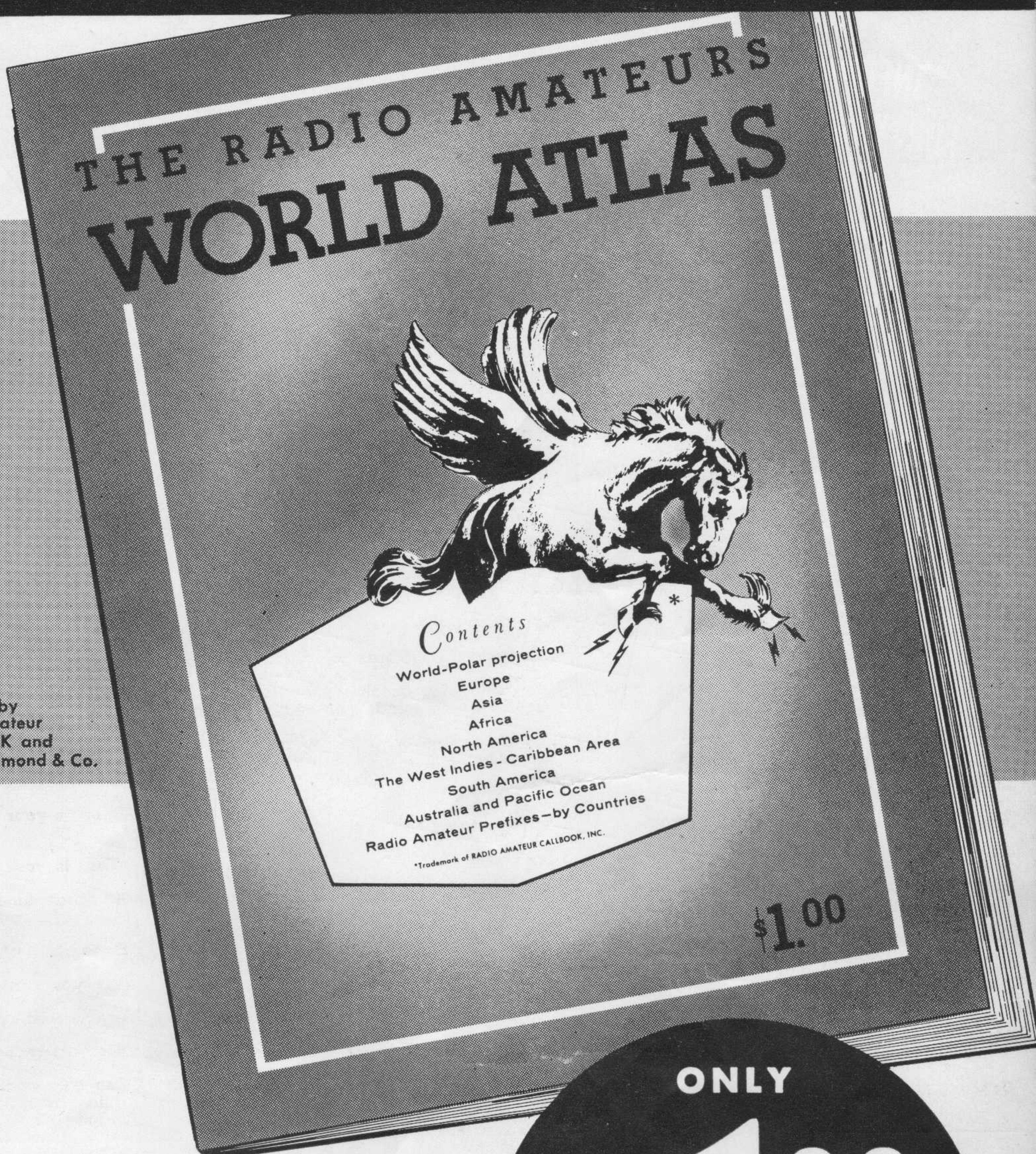
INTERNATIONAL "Q" SIGNALS

Abbreviation	Question	Answer or Advice	Abbreviation	Question	Answer or Advice
QRA	What is the name of your station?	The name of my stations is . . .	QSY	Will you listen to . . . [call sign(s)] on . . . kc/s (or Mc/s)?	I am listening to . . . [call sign(s)] on . . . kc/s (or Mc/s).
QRB	How far approximately are you from my station?	The approximate distance between our stations is . . . nautical miles (or kilometres)	QSZ	Shall I change to transmission on another frequency?	Change to transmission on another frequency [or on . . . kc/s (or Mc/s)].
QRD	Where are you bound and where are you from?	I am bound for . . . from . . .	QTA	Shall I send each word or group more than once?	Send each word or group twice (or . . . times).
QRG	Will you tell me my exact frequency or that of . . .)?	Your exact frequency (or that of . . . is . . . kc/s (or Mc/s).	QTB	Shall I cancel telegram number . . . as if it had not been sent?	Cancel telegram number . . . as if it had not been sent.
QRH	Does my frequency vary?	Your frequency varies.	QTC	Do you agree with my counting of words?	I do not agree with your counting of words; I will repeat the first letter or digit of each word or group.
QRI	How is the tone of my transmission?	The tone of your transmission is . . . (1. Good; 2. Variable; 3. Bad).	QTE	How many telegrams have you to send?	I have . . . telegrams for you (or for . . .).
QRK	What is the readability of my signals (or those of . . .)?	The readability of your signals (or those of . . .) is . . . (1. Unreadable; 2. Readable now and then; 3. Readable, but with difficulty; 4. Readable; 5. Perfectly readable).	QTH	What is my TRUE bearing from you?	Your TRUE bearing from me is . . . degrees (at . . . hours)
QRL	Are you busy?	I am busy (or I am busy with . . .). Please do not interfere.	QTI	What is my TRUE bearing from . . . (call sign)?	Your TRUE bearing from . . . (call sign) was . . . degrees (at hours)
QRM	Are you being interfered with?	I am being interfered with.	QTL	What is the TRUE bearing of . . . (call sign) from . . . (call sign)?	The TRUE bearing of . . . (call sign) from . . . (call sign) was . . . degrees at . . . hours).
QRN	Are you troubled by static?	I am troubled by static.	QTN	Will you send two dashes of ten seconds each followed by your call sign (repeated . . . times) [on . . . kc/s (or Mc/s)]?	I am going to send two dashes of ten seconds each followed by my call sign (repeated . . . times) [on . . . kc/s (or Mc/s)]
QRO	Shall I increase power?	Increase power.	QTO	Will you request . . . to send two dashes of ten seconds followed by his call sign (repeated . . . times) on . . . kc/s (or Mc/s)?	I have requested . . . to send two dashes of ten seconds followed by his call sign (repeated . . . times) on . . . kc/s (or Mc/s).
QRP	Shall I decrease power?	Decrease power.	QTP	What is your position in latitude and longitude (or according to any other indication)?	My position is . . . latitude . . . longitude (or according to any other indication).
QRQ	Shall I send faster?	Send faster (. . . words per minute).	QTR	What is your TRUE track?	My TRUE track is . . . degrees.
QRR	Are you ready for automatic operation?	I am ready for automatic operation. Send at . . . words per minute.	QTS	What is your speed?	My speed is . . . knots (or kilometres per hour).
QRS	Shall I send more slowly?	Send more slowly (. . . words per minute).	QTT	What is your TRUE heading?	My TRUE heading is . . . degrees.
QRT	Shall I stop sending?	Stop sending.	QTV	At what time did you depart from . . . (place)?	I departed from . . . (place) at . . . hours.
QRU	Have you anything for me?	I have nothing for you.	QTX	Have you left dock (or port)?	I have left dock (or port)
QRV	Are you ready?	I am ready.	QUA	Are you airborne?	I am airborne.
QRW	Shall I inform . . . that you are calling him on . . . kc/s (or Mc/s).	Please inform . . . that I am calling him on . . . kc/s (or Mc/s).	QUB	Are you going to enter dock (or port)?	I am going to enter dock (or port)
QRX	When will you call me again?	I will call you again at . . . hours [on . . . kc/s (or Mc/s)].	QUC	Are you going to alight (or land)?	I am going to alight (or land).
QRY	What is my turn?	Your turn is Number . . . (Relates to communication.)	QUD	Can you communicate with my station by means of the International Code of Signals?	I am going to communicate with your station by means of the International Code of Signals.
QRZ	Who is calling me?	You are being called by . . . [on . . . kc/s or Mc/s)].	QUE	What is the correct time?	The correct time is . . . hours.
QSA	What is the strength of my signals (or those of . . .)?	The strength of your signals (or those of . . .) is . . . (1. Scarcely perceptible; 2. Weak; 3. Fairly good; 4. Good; 5. Very good).	QUT	Will you send your call sign for . . . minute(s) now (or at . . . hours) [on . . . kc/s (or Mc/s)] so that your frequency may be measured?	I will send my call sign for . . . minute(s) now (or at . . . hours) [on . . . kc/s (or Mc/s)] so that my frequency may be measured.
QSB	Are my signals fading?	Your signals are fading.	QUV	What are the hours during which your station is open?	My station is open from . . . to . . . hours.
QSD	Is my keying defective?	Your keying is defective.	QVW	Shall I stand guard for you on the frequency of . . . kc/s (or Mc/s) (from . . . to . . . hours)?	Stand guard for me on the frequency of . . . kc/s (or Mc/s) (from . . . to . . . hours).
QSG	Shall I send . . . telegrams at a time?	Send . . . telegrams at a time.	QVX	Will you keep your station open for further communication with me until further notice (or until . . . hours)?	I will keep my station open for further communication with you until further notice (or until . . . hours).
QSH	What is the charge to be collected per word to . . . including your internal telegraph charge?	The charge to be collected per word to . . . including my internal telegraph charge is . . . francs.	QUA	Have you news of . . . (call sign)?	Here is news of . . . (call sign).
QSK	Can you hear me between your signals?	I can hear you between my signals.	QUB	Can you give me, in the following order, information concerning: visibility, height of clouds, direction and velocity of ground wind at . . . (place of observation)?	Here is the information requested . . .
QSL	Can you acknowledge receipt?	I am acknowledging receipt.	QUC	What is the number (or other indication) of the last message you received from me [or from (call sign)]?	The number (or other indication) of the last message I received from you [or from . . . (call sign)] is . . .
QSM	Shall I repeat the last telegram which I sent you, or some previous telegram?	Repeat the last telegram which you sent me [or telegram(s) number(s) . . .].	QUD	Have you received the urgency signal sent by . . . (call sign of mobile station)?	I have received the urgency signal sent by . . . (call sign of mobile station) at . . . hours).
QSN	Did you hear me [or . . . (call sign)] on . . . kc/s (or Mc/s)?	I did hear you [or . . . (call sign)] on . . . kc/s (or Mc/s).	QUF	Have you received the distress signal sent by . . . (call sign of mobile station)?	I have received the distress signal sent by . . . (call sign of mobile station) at . . . hours.
QSO	Can you communicate with . . . direct or by relay?	I can communicate with . . . direct (or by relay through . . .).	QUG	Will you be forced to alight (or land)?	I am forced to alight (or land immediately.
QSP	Will you relay to . . . free of charge?	I will relay to . . . free of charge.	QUH	Will you give me the present barometric pressure at sea level?	The present barometric pressure at sea level is . . . (units).
QSQ	Have you a doctor on board [or is . . . (name of person) on board]?	I have a doctor on board [or . . . name of person) is on board].			
QSU	Shall I send or reply on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .)?	Send or reply on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .).			
QSV	Shall I send a series of V's on this frequency [or . . . kc/s (or Mc/s)]?	Send a series of V's on this frequency [or . . . kc/s (or Mc/s)].			
QSW	Will you send on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .)?	I am going to send on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .).			

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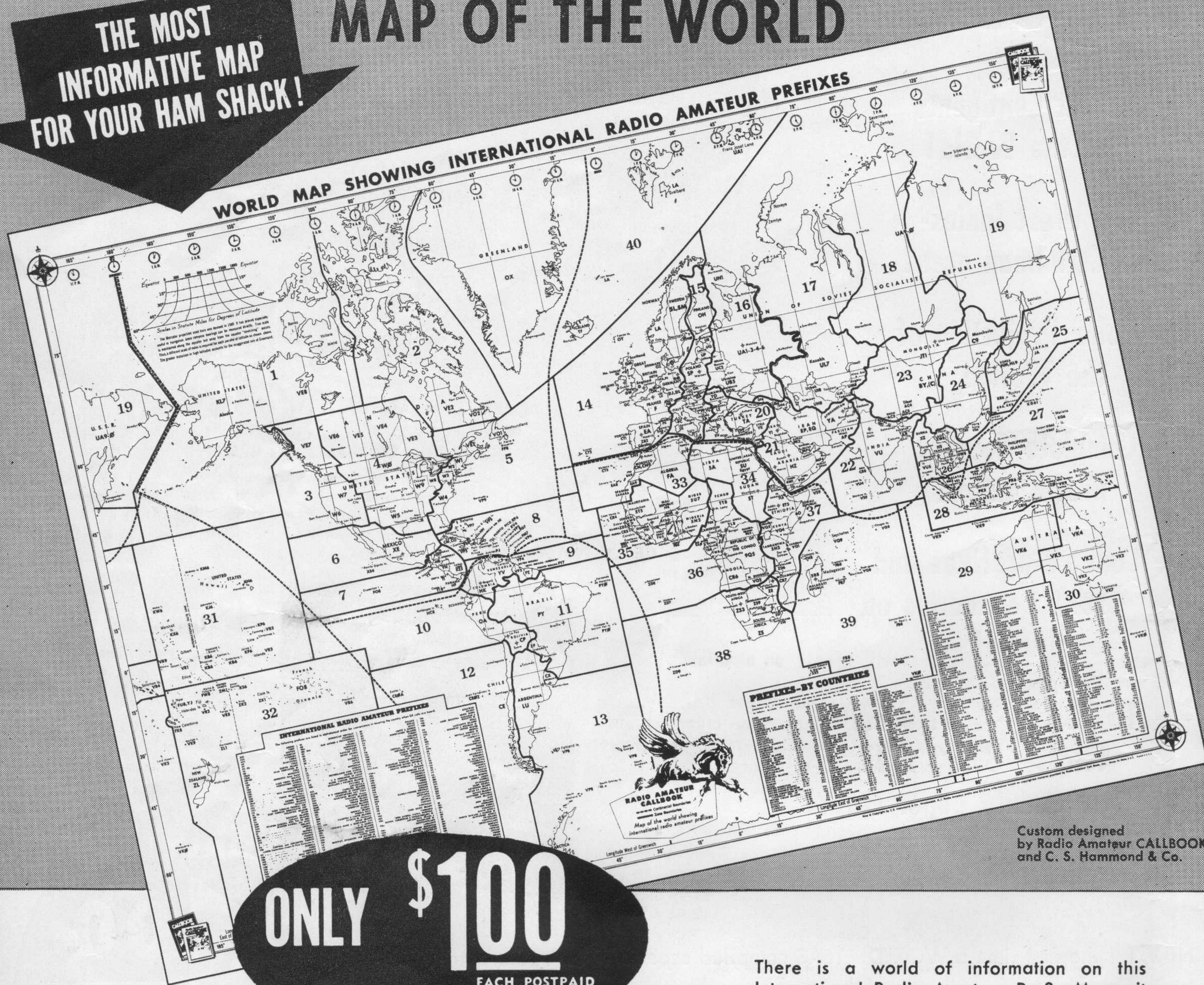
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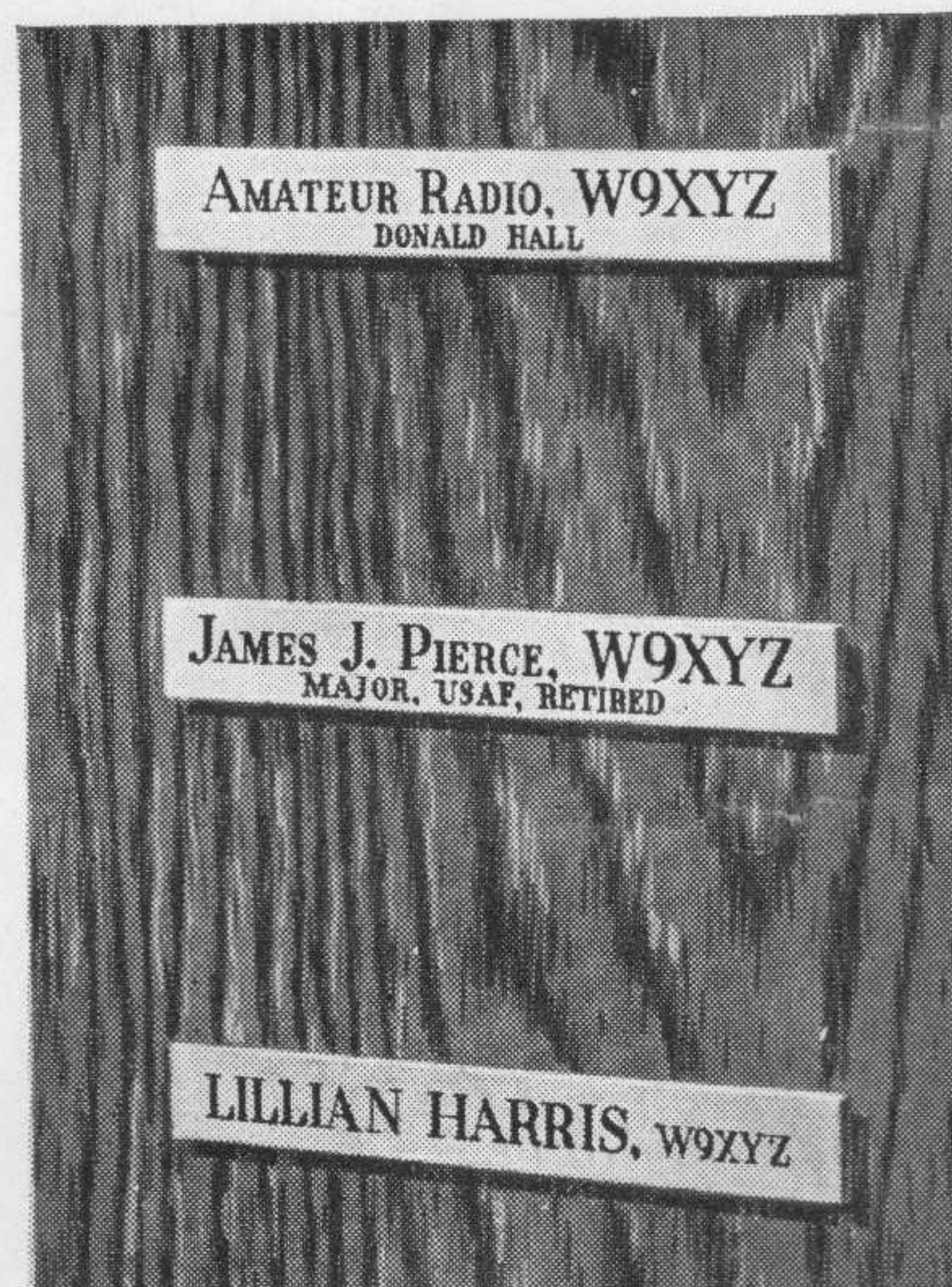
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**SATISFACTION GUARANTEED
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**MAIL ORDERS
PROMPTLY FILLED**

Handy Order Form for Desk-n-Door Markers

9-62

SEND ORDER TO BERTON'S, INC., 4844 WEST FULLERTON AVE., CHICAGO 39, ILL.
Show wording exactly as you want it to appear, including numbers, symbols and punctuation.

WORDING

Check here for:

☐ GIFT CARD (No charge)

Name to appear
on gift card _____

Total amount \$ _____

Illinois residents only add
4 % retailers' occupational
tax _____

Amount enclosed \$ _____

Check correct boxes below

KIND OF MARKER Check one	METAL Check one	ARRANGEMENT OF LINES Check one if two-line marker	BASE FINISH Check one if Desk or Exec. Marker
<input type="checkbox"/> Desk <input type="checkbox"/> Exec. without pen <input type="checkbox"/> Exec. with pen <input type="checkbox"/> Door <input type="checkbox"/> MiniMarker	<input type="checkbox"/> Aluminum <input type="checkbox"/> Brass <input type="checkbox"/> Bronze	<input type="checkbox"/> Large letters over small <input type="checkbox"/> Small letters over large <input type="checkbox"/> Both lines small letters (We cannot put two large lines on one plate)	<input type="checkbox"/> Walnut <input type="checkbox"/> Birch <input type="checkbox"/> Ebony

SHIP TO: _____

ADDRESS _____

CITY _____ ROUTE OR ZONE _____ STATE _____

THANK YOU FOR YOUR ORDER



Lapel Pin

with clutch back.

May also be used as a tie-tac.

Item 1-G, 20K gold plated Each.....\$5.00

Item 1-R, Rhodium plated *F.E.T..... .50

\$5.50



Cuff Links

Item 2-G, 20K gold plated

Item 2-R, Rhodium plated

Each Pair...\$10.00

*F.E.T..... 1.00

\$11.00



Tie Bar

Item 3-G, 20K gold plated

Item 3-R, Rhodium plated

Each.....\$6.50

*F.E.T..... .65

\$7.15



Ear Rings

Item 4-G, 20K gold plated

Item 4-R, Rhodium plated

(Specify screw or clip type)

Each Pair.....\$10.00

*F.E.T..... 1.00

\$11.00

Pin

(with safety catch)

Item 6-G, 20K gold plated

Item 6-R, Rhodium plated

Each.....\$6.50

*F.E.T..... .65

\$7.15

Charm Bracelet

Item 5-G, 20K gold plated

Item 5-R, Rhodium plated

Each Set.....\$8.50

*F.E.T..... .85

\$9.35

Charm

(without bracelet)

Each.....\$6.00

*F.E.T..... .60

Item 7-G, 20K gold plated

Item 7-R, Rhodium plated

\$6.60



The Legend of Pegasus..

Most of us have heard or read about the famous winged horse of Greek mythology that appeared through magic. Flying across the heavens, hoofs flashing, Pegasus brought the thunder and lightning. Of course this is a myth but

Pegasus lives on in the spirit of adventure—and where could we find more adventure than in the magic of radio, circling the globe extending friendship to everyone. For this reason we have adopted Pegasus from the cover of the CALLBOOK (by permission) to portray in our design the symbol of adventure in amateur radio.

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Available in either 20K gold plate or rhodium plate (non-tarnishing silver-like finish) and inlaid in black to enhance the fine detail of design. The item you select will be engraved with the call letters you specify. Quality and workmanship guaranteed.

An additional feature is the “if found” legend inscribed on the reverse side of each piece.

Radio Amateur Emblem jewelry—a truly distinctive gift to give or receive.

Handy Order Form for Jewelry

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Item No.	Quantity ordered	Name of article	Engrave Call letters	Gold or Rhodium ?	Price Each	Federal Tax	Total

Total Amount \$ _____

Illinois residents only add 4 %
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Name _____

Amount enclosed \$ _____

Address _____

Street

RFD

P.O. Box No.

Town or City

Zone

State



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CHICAGO 39,
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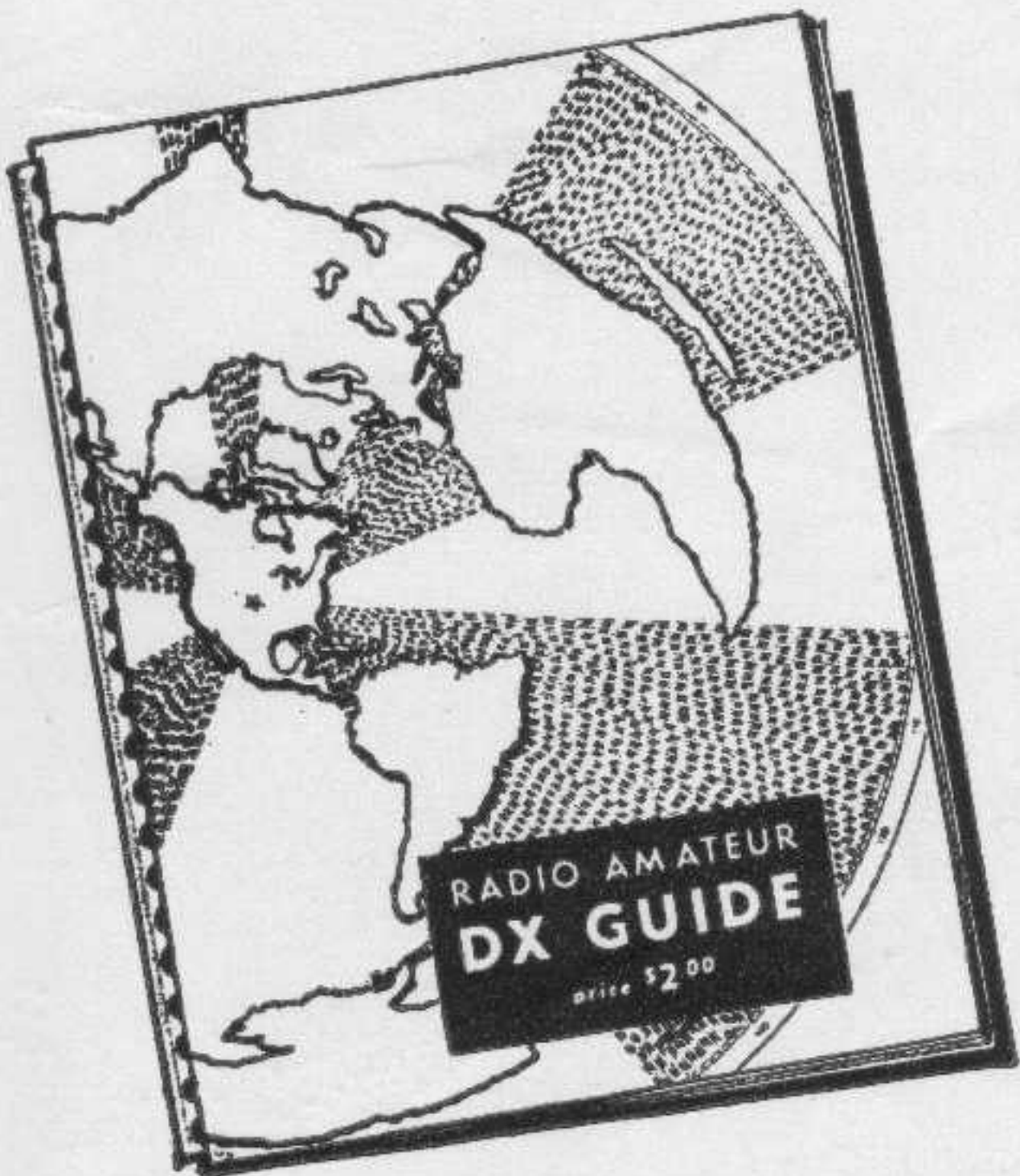
All illustrations are actual size.
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delivery. December 1st is the
deadline for Christmas delivery

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PRICE POSTPAID **\$2.00**

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PREFIX MAP OF SOUTH AMERICA—showing the number or letter designating all sections and countries.

ARRL SECTION MAP—of the U. S. Check off the sections worked during ARRL contests.

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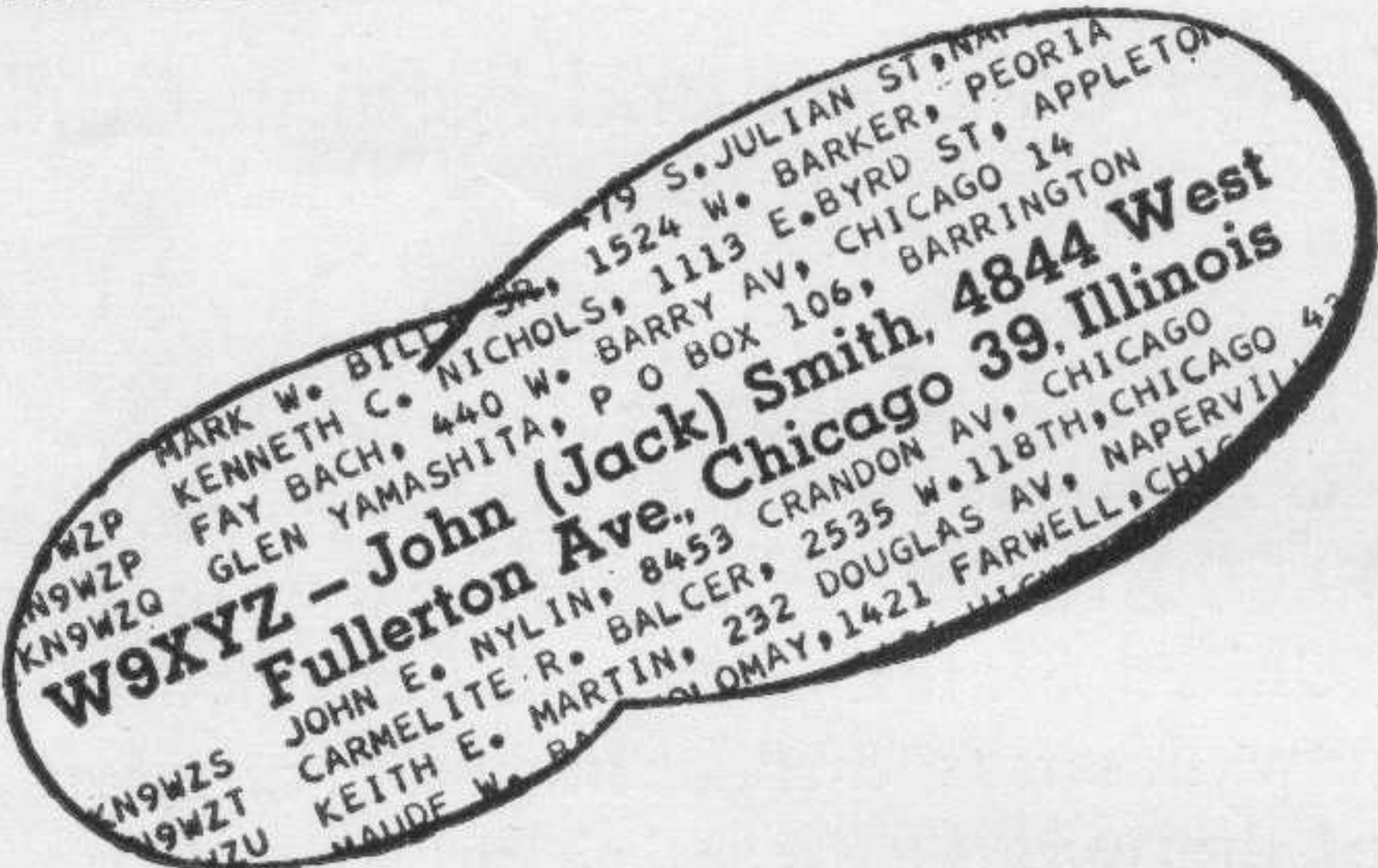
ARRL COUNTRIES LIST—official list of ARRL DX contest and DXCC. Courtesy ARRL.

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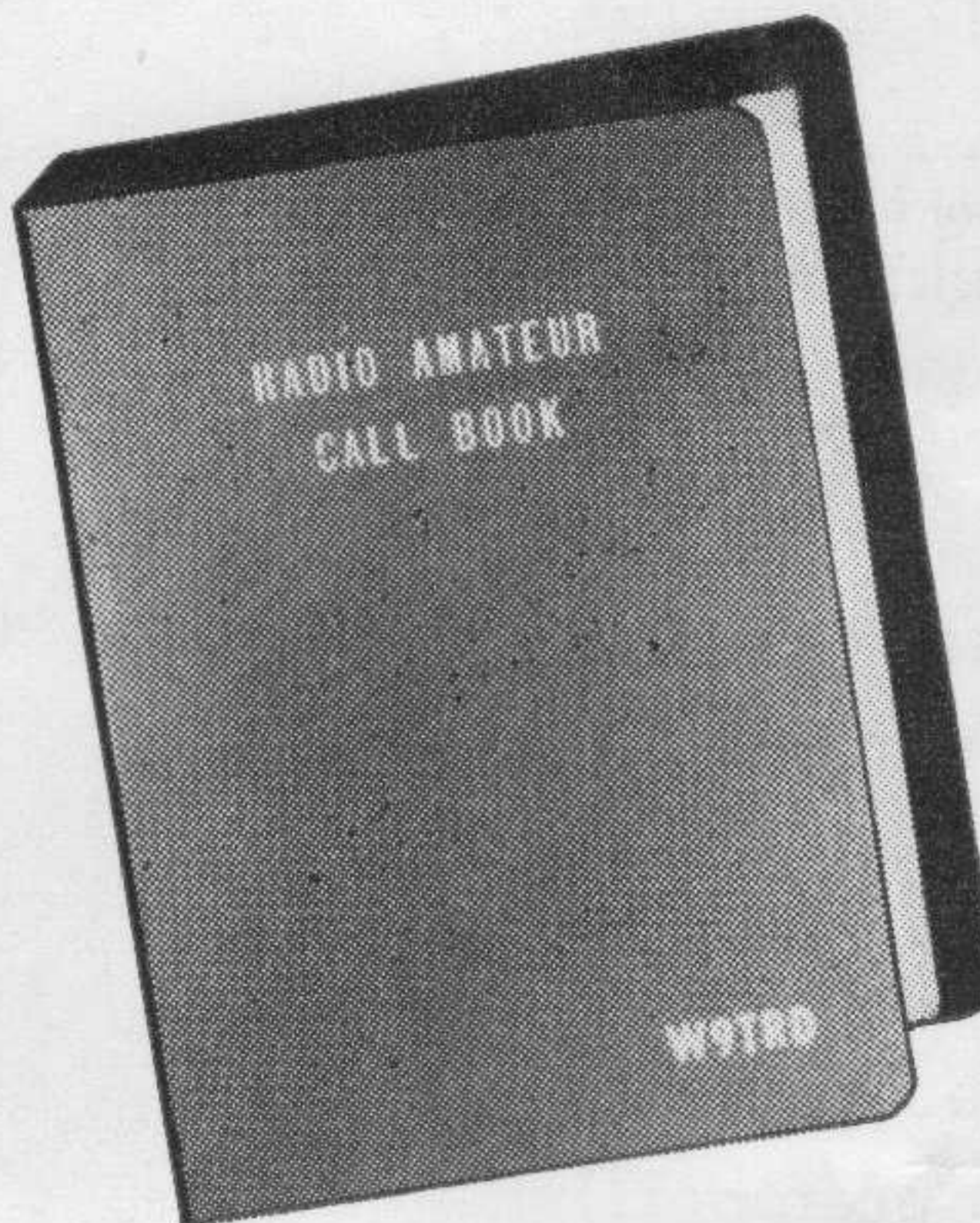
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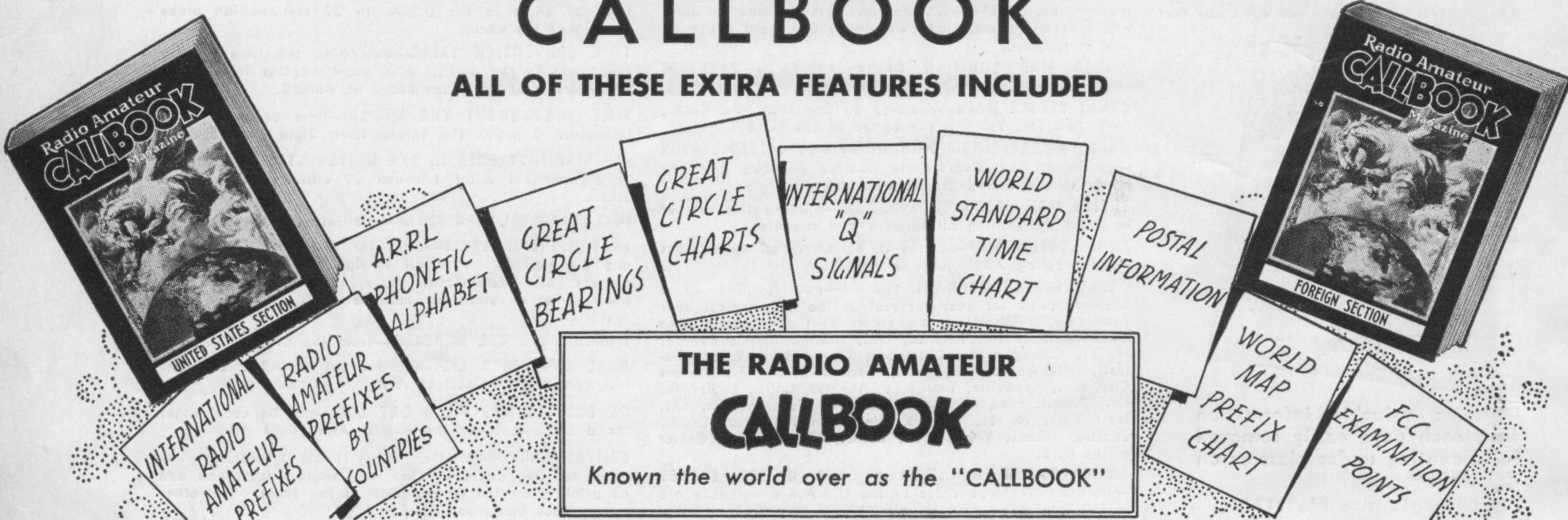
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